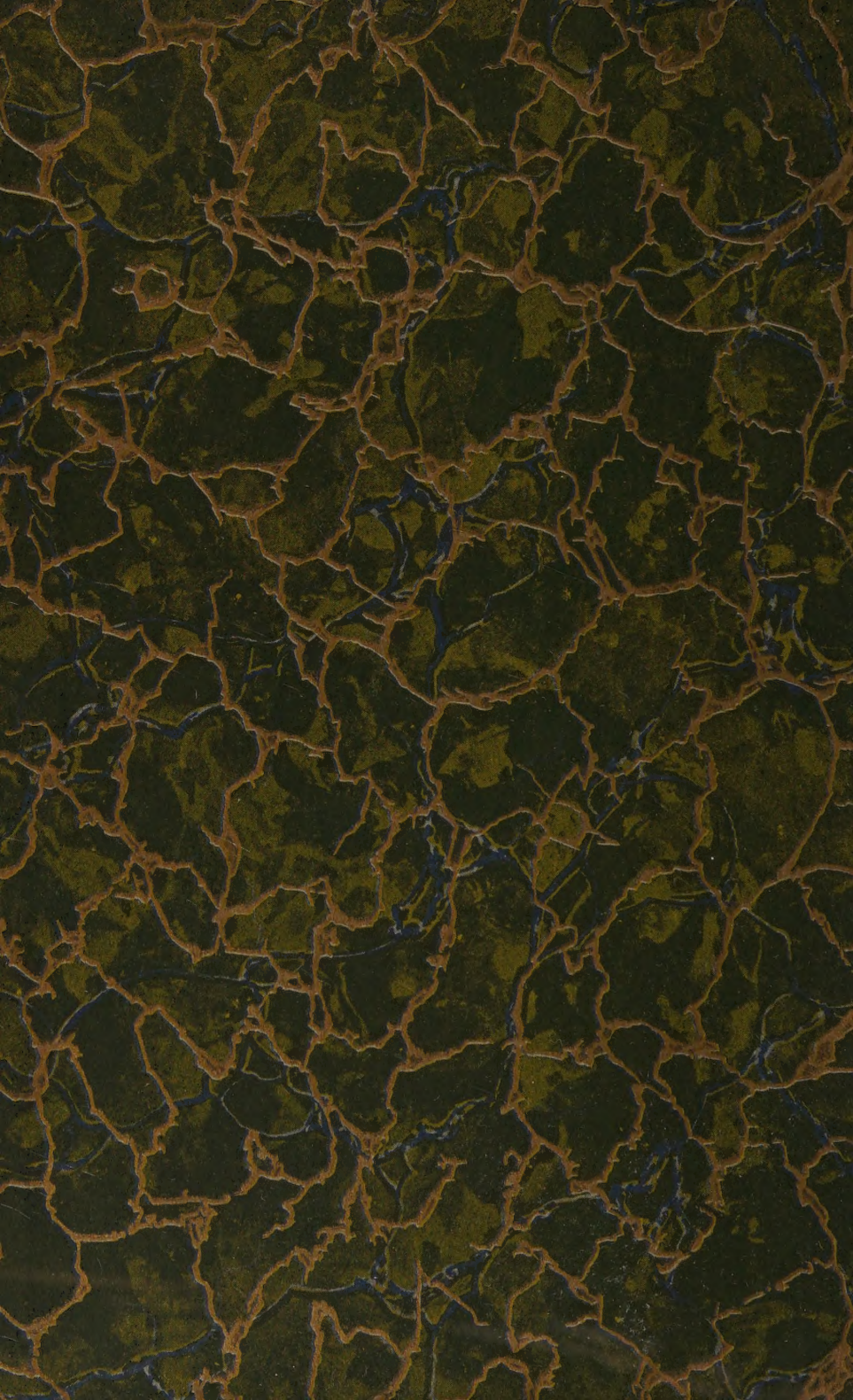
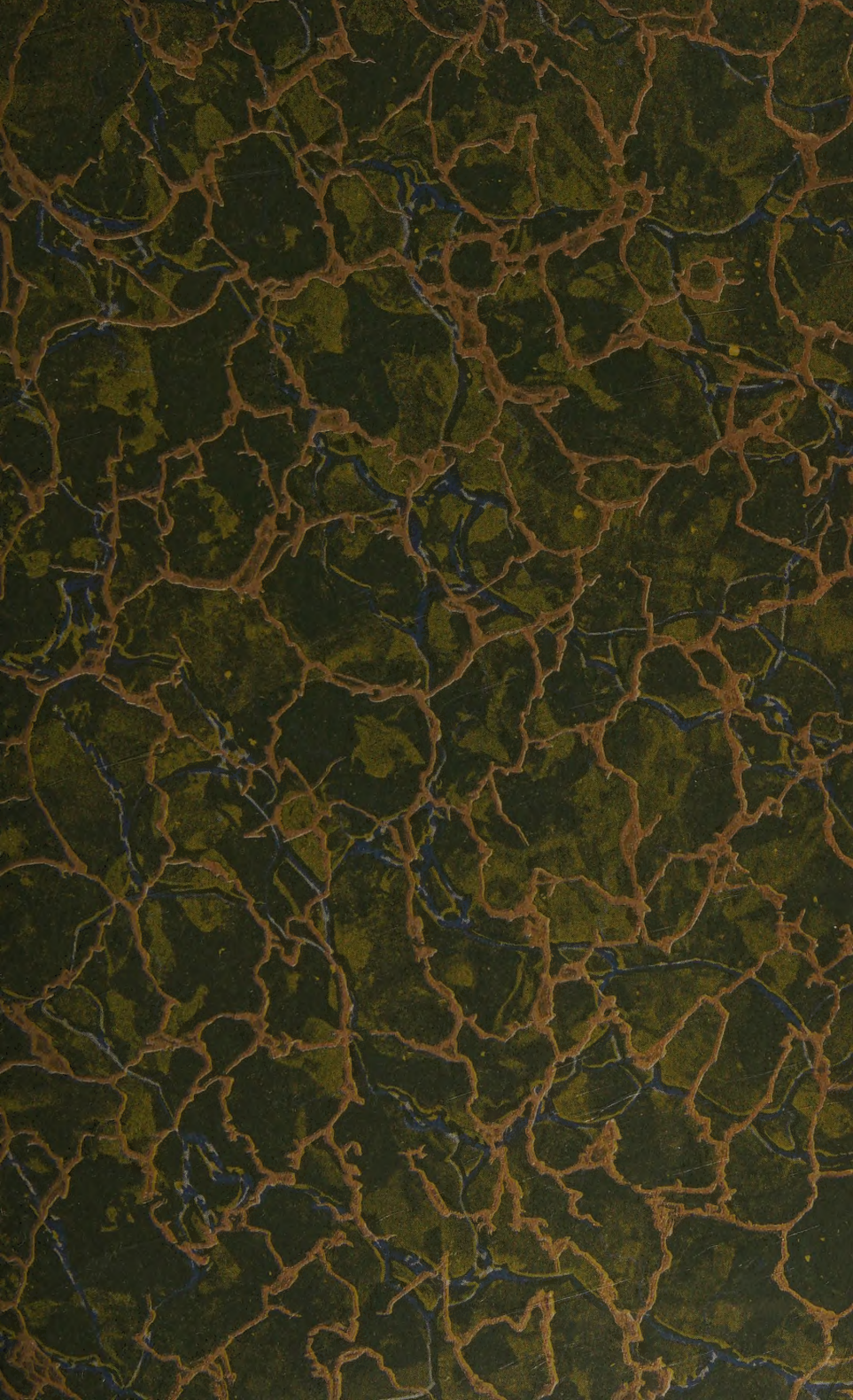








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63B

A SERIES OF TEXTBOOKS FOR PERSONS ENGAGED IN ENGINEERING PROFESSIONS, TRADES, AND VOCATIONAL OCCUPATIONS OR FOR THOSE WHO DESIRE INFORMATION CONCERNING THEM. FULLY ILLUSTRATED

METAL DISPLAY FIXTURES
WOODEN DISPLAY FIXTURES
DISPLAY FORMS
PERMANENT BACKGROUNDS AND
PARQUETRY FLOORS
DECORATIVE DISPLAY AND
EQUIPMENT
ILLUMINATION AND MOTION IN
DISPLAY

SCRANTON
INTERNATIONAL TEXTBOOK COMPANY

1921

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PREFACE

The volumes of the International Library of Technology are made up of Instruction Papers, or Sections, comprising the various courses of instruction for students of the International Correspondence Schools. The original manuscripts are prepared by persons thoroughly qualified both technically and by experience to write with authority, and in many cases they are regularly employed elsewhere in practical work as experts. The manuscripts are then carefully edited to make them suitable for correspondence instruction. The Instruction Papers are written clearly and in the simplest language possible, so as to make them readily understood by all students. Necessary technical expressions are clearly explained when introduced.

The great majority of our students wish to prepare themselves for advancement in their vocations or to qualify for more congenial occupations. Usually they are employed and able to devote only a few hours a day to study. Therefore every effort must be made to give them practical and accurate information in clear and concise form and to make this information include all of the essentials but none of the non-essentials. To make the text clear, illustrations are used freely. These illustrations are especially made by our own Illustrating Department in order to adapt them fully to the requirements of the text.

In the table of contents that immediately follows are given the titles of the Sections included in this volume, and under each title are listed the main topics discussed. At the end of the volume will be found a complete index, so that any subject treated can be quickly found.

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METAL DISPLAY FIXTURES

INTRODUCTION

1. Improved commercial conditions, together with keen competition within the past few years, have wrought great changes in the displaying of merchandise. These changes have increased the importance of the show window to such an extent that today it is perhaps the strongest as well as the most vital element of retail merchandizing. The swift march of progress and competition have compelled merchants to have their goods exhibited in a way that will attract attention and also lead to their sale. This can be done only by a person possessing taste and skill in the art of displaying merchandise.

2. The qualities of a successful window dresser consist of good ideas, neatness, and ability to harmonize colors, and his success will depend greatly on the aptitude displayed in the general layout and arrangement of merchandise.

The window dresser may be classed as an artist, but instead of paints, he must use merchandise with its many colors. The effects of different combinations should be carefully studied in order that the best results may be obtained. In this way, it will be possible to produce a window display that has not only a good perspective, but a background that will harmonize and bring out the beauty and value of the merchandise.

Many artists, as a rule, visit art galleries in order to see the work of others, after which they imitate a certain subject or

try to improve on it, sometimes spending months to get the desired effect. In a like manner, the successful window dresser studies the displays in other show windows for the purpose of obtaining new ideas. The habit of observation should be cultivated, not merely because it will enable the window dresser to obtain the ideas of others, but because it will create in him a tendency to develop original ideas. Observing the work of others is often of great benefit, as it teaches both good effects and combinations and effects that are not good and that should be avoided.

3. In order to derive the best results from a study of the subject of merchandise display, the various units, displays, and illustrations shown should be given careful consideration. It will be necessary to study every minute change that the material undergoes in the various manipulations of the plaits, folds, and arrangement before the final touch is given to the many draped forms or articles of merchandise. There may be a tendency on the part of some beginners to examine the illustrations in a general way, with the result that only a vague conception of the various details of the work is gained. To become proficient, he must not only pay particular attention to the various manipulations, but must repeatedly practice them. It should be the invariable habit to imitate every movement of the fingers and hand that is illustrated and repeat each motion several times until it can be done with accuracy and speed.

In addition, the various fixtures, as well as the materials for all kinds of decorative purposes, are illustrated and discussed. The display fixture is a necessary adjunct to the show window; in fact, it is almost as important as the show window itself. The beginner will therefore do well to become familiar with the various types of fixtures, as he will learn that they are the foundation of practically all well-dressed show windows.

If the illustrations and the text describing the various examples are carefully studied, little trouble should be experienced in carrying out the ideas set forth; also, with

ingenuity on the part of the beginner, an endless variety of effects, units, and groupings may be devised. Although the main points of all branches of window dressing will be fully described, it should be borne in mind that the thousands of other groupings that can be made by combining cannot be illustrated.

DISPLAY FIXTURES

FIXTURES OF METAL TUBING

GENERAL DESCRIPTION

4. Any device, whether movable or stationary, of metal or wood, by means of which merchandise may be displayed is known by window trimmers as a **display fixture**. Broadly speaking, display fixtures are of three kinds: (1) Those which have a supporting base are known as *stands*; (2) those which are attached to side walls or to backgrounds either by means of screws or in some other manner are called *brackets*; and (3) those which are suspended from ceilings are *pendants*. A **stand** is usually made up of the *base*; the *standard*, which may be adjustable or non-adjustable; and *arms* or *cross-rods*. A **bracket** consists of a *socket* fastened to the wall and an *arm*, which is made so that one end will fit into the socket. A **pendant** has practically the same parts as a stand, but instead of a base there is a device by means of which the fixture may be fastened to the ceiling. For displaying the various articles of merchandise, there are innumerable styles and shapes of *attachments* and *tops* that may be secured to any of the fixtures; many of these will be taken up in describing the various fixtures.

5. Metal fixtures are manufactured in an almost endless variety of designs and sizes, in plain and fancy brass tubing, and with bases of various shapes to meet the taste and requirements of the window trimmer. The brass tubing used for fixtures varies from $\frac{1}{4}$ inch to $1\frac{1}{4}$ inches in diameter,

measured from outside to outside. This method of measuring differs from the practice with iron pipe used for conveying gas and water, the size of which is determined by the inside diameter.

Many fixtures are constructed especially for certain purposes. Such fixtures can be used to display only the articles for which they are designed. On the other hand, there are many fixtures that may be used for showing different articles of merchandise. For example, a shirt easel stand, which is intended primarily for the displaying of shirts, may be used to display laces, embroideries, or any similar material that is to be shown in the piece wrapped on cardboard. This style of fixture may also be used to show boxes containing such goods as underwear, handkerchiefs, neckwear, hosiery, etc. In addition, show-cards can be placed on this useful stand and adjusted to any angle and to various heights.



FIG. 1

A millinery flower and feather clip stand can also be used to display neckwear, handkerchiefs, jewelry, combs, ribbon bows, rosettes, and smokers' articles, such as pipes and cigar or cigarette holders. The latter fixture is made with a spring clip, such as that shown in Fig. 1, that will open about an inch. Some clips are made plain and others are lined with felt so as to keep the metal from scratching or marring such articles as amber, or meerschaum pipes, pieces of jewelry, etc.

6. Metal Finishes.—The various **finishes** used on metal display fixtures are given in the following list:

- | | |
|------------------------------|---------------------|
| 1. Bright nickel | 11. Polished copper |
| 2. Dull, white nickel | 12. Antique copper |
| 3. Oxidized nickel | 13. Oxidized copper |
| 4. Polished brass | 14. Clouded copper |
| 5. Polished brass, pale gold | 15. Light bronze |
| 6. Polished brass, rich gold | 16. Dark bronze |
| 7. Antique or satin brass | 17. Gun metal |
| 8. Oxidized brass | 18. Verde green |
| 9. Gilt mat, pale gold | 19. Dull black |
| 10. Gilt mat, rich gold | |

The finishes numbered 1, 3, 4, 5, 6, 8, 10, 13, 17, and 19 are extremely durable and are recommended for hard usage. The other finishes make a better appearance, but require more care to keep them in good condition. For use in department or dry-goods stores, where fixtures are subject to hard service, the bright-nickel, bright-brass, oxidized-copper, and gun-metal finishes are best. For haberdashery, clothing, shoe, hat, or millinery establishments, the fancy finishes should be chosen, because the class of merchandise carried in such places will permit the display stands to be more in evidence. Whether of metal or wood, the display fixtures in such establishments should always have an attractive finish.

FIXTURE COMBINATIONS

7. Besides a knowledge of the different uses to which a fixture may be put, it is necessary for the window trimmer to know the different combinations and changes that can be made by replacing one part of a fixture with another or by adding other parts to it. A display stand, as already noted, usually consists of a base and standard to which may be fastened many styles of arms and attachments. In Fig. 2 are illustrated what are commonly known as a **T stand** and various fixture arms that can be used with it to make the combinations and changes just mentioned.

8. The **T stand**, which consists of a base, a standard, and a cross-rod, is shown at *a*. This style of stand is the most important to the window trimmer, because it can be used to display nearly all kinds of goods. It is made adjustable and comes in heights ranging from 6 to 50 inches, with cross-rods of various lengths. Any adjustable **T stand** can be extended to twice its length, less about 2 inches.

By replacing the cross-rod of the **T stand** with a triple-arm top, shown at *b*, a fixture is obtained that can be used for draping all kinds of dress fabrics and furnishings for men and women. A stand fitted with this kind of arm is also suitable for displaying laces, embroideries, ribbons, etc.

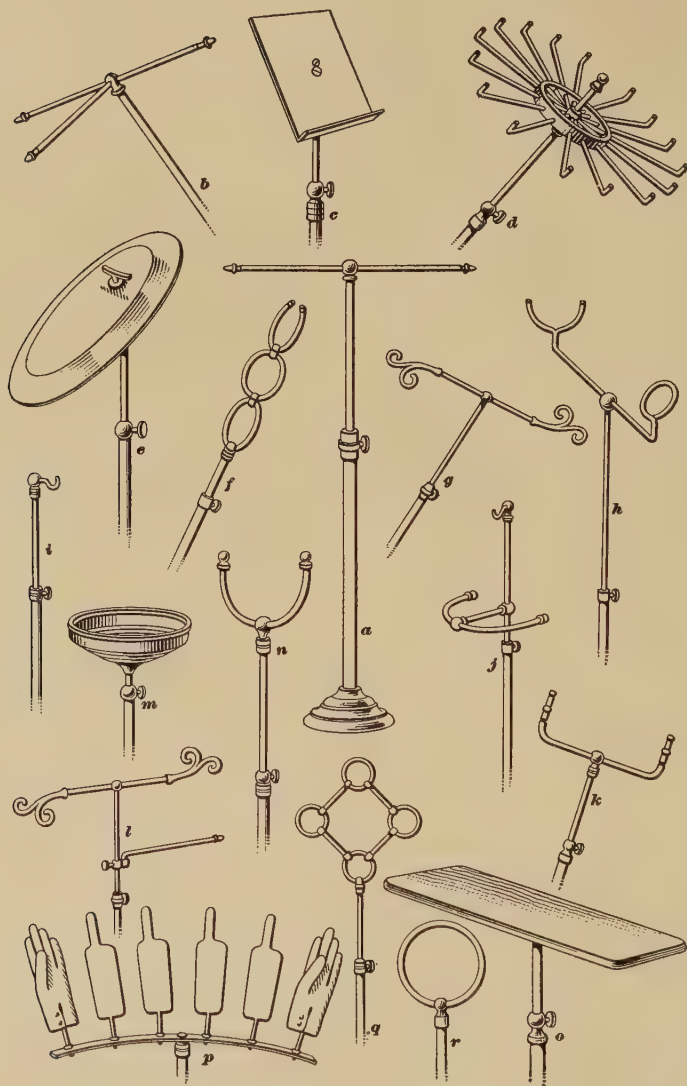


FIG. 2

The stand top *c* can be used to show boxes of merchandise, full pieces of lace, embroideries, shirts, or show-cards.

The revolving top *d* is especially adapted for use on the top of a counter or a show case for exhibiting belts, suspenders, or neckwear, the articles being hung on the arms.

The oval top *e* may be made of metal, wood, or polished plate. It is used to display shoes. This top can be tilted to almost any angle by means of a thumbscrew attachment.

At *f*, *n*, *q*, and *r* are shown tops made up of rings and half rings through which may be draped yard goods, such as shirtings, silks, and dress fabrics. The rings of such tops vary from 2½ to 5 inches in diameter.

The two scroll tops *g* and *l* are suitable for displaying men's clothing. As will be observed, the scrolls form hooks from which coats may be hung, and to the standard of the fixture top *l* is attached a swing arm on which a pair of trousers may be placed. Such tops can also be used for showing many other kinds of merchandise.

The top *h* is designed to hold a wine bottle. The neck of the bottle is inserted into the ring, and the body of the bottle is held by the two prongs.

The hook tops *i* and *j* are employed for displaying coats, the half-circle attachment of the top *j* being used to hold out the shoulder of a coat.

The stand top *k* is designed for displaying women's skirts and men's trousers, which are folded and placed over the rod. Besides holding the articles in place, the turned-up ends of this fixture top serve to hold a narrow-strip show-card or a price ticket, each end having a spring clip for this purpose.

The concave pedestal top *m* is made in diameters ranging from 8 to 14 inches. It is used for displaying such small articles as fruits, nuts, candies, notions, and many of the druggists' sundries. By placing a glass shelf across this pedestal top, large articles of merchandise can be exhibited.

The flat wooden top *o* is suitable for displaying yard goods and boxed merchandise. Such tops are made in widths of 4 to 8 inches and in lengths of 14 to 28 inches.

The top *p* is made expressly for showing kid gloves.

EXAMPLES OF STANDS AND BRACKETS

9. In Figs. 3, 4, and 5 are illustrated several styles of metal display stands that are used extensively.

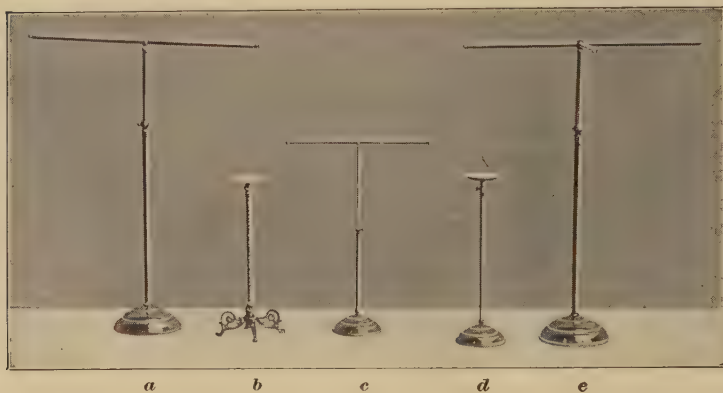


FIG. 3

The T stands *a* and *c* and the triple-arm stand *e*, Fig. 3, differ in no way from those already described.

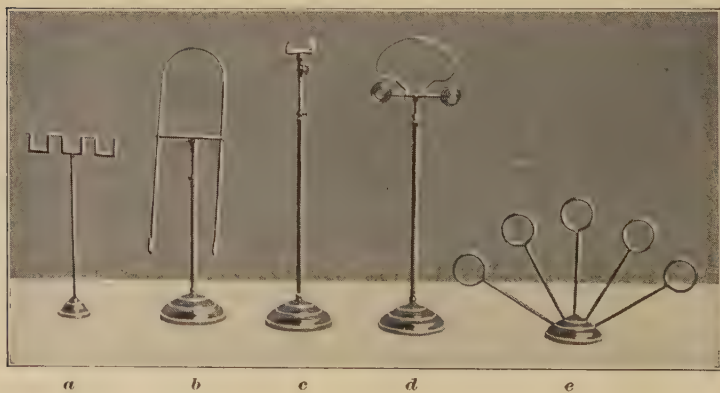


FIG. 4

At *b* and *d* are shown stands on which hats may be displayed. One stand *b* has a fancy scroll base, and its top,

which is in the shape of an inverted cup, is covered with velvet to keep the hat from slipping. In the other hat stand *d* the top is reversed, and around its edge is a rubber band for the purpose of keeping the hat in place.

10. At *a*, Fig. 4, is shown a non-adjustable stand made especially to show neckwear or belts. Each notch is about 2 inches deep and will hold several belts or ties.

The stand at *b* is known as a shirt easel or box easel, and that at *c* is used to display shoes. The stand *c* is provided with a thumbscrew and a spring clip that grips the shoe, which may be tilted to almost any angle.

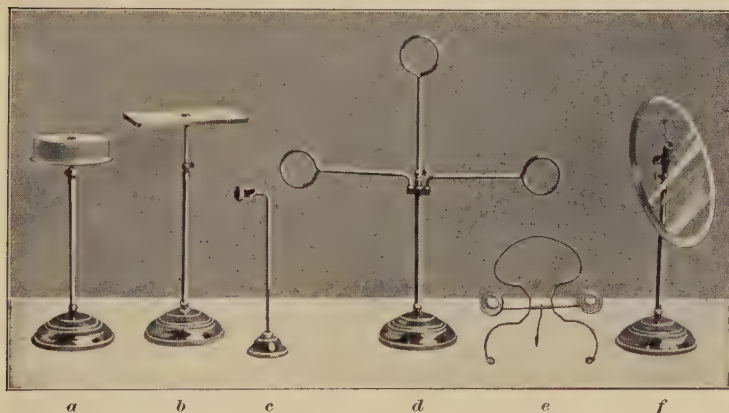


FIG. 5

The stand at *d* is especially made for showing fans, but it may be used for displaying any kind of merchandise wrapped on cards, such as laces, embroideries, etc. It is provided with two coiled springs, as shown, in which the fan or cardboard is inserted.

At *e* is shown a five-ring stand on which hosiery, neckwear, or gloves may be exhibited.

11. At *a*, Fig. 5, is shown a collar stand on which men's or women's collars and scarfs may be displayed. In using this stand, a scarf is tied around a collar. A stand of this kind may also be used to show women's fancy stock collars.

At *b* is shown a flat-top haberdashery stand; and at *c*, a clip stand used to display flowers, ties, pipes, etc.

The triple-ring swing-arm furnishing display stand *d* is designed especially to show men and women's neckwear, hosiery, handkerchiefs, gloves, or any small pliable article that can be easily drawn or draped through the rings.

At *e* is shown a low fan stand or show-card easel, and at *f* an oval, beveled-edge, plate-glass shoe stand. This style of shoe stand is provided with a wire heel rest, which, when turned down, will support a box or a show-card in a slanting position.

12. In the following pages will be found illustrations and descriptions of many styles of metal display fixtures. At a glance, the difference between many of these fixtures may appear to be very slight, but on careful examination it will be found that an arm of special shape, a clamp, or some additional attachment will tend to make one stand more suitable for a certain purpose than another. The fixtures are numbered and are also designated by the letter M, so that in descriptions of window displays that will be taken up in subsequent Sections they can be distinguished from fixtures made of some other material, which will also be designated by their initial letter.



FIG. 6

Fixture 6M (Fig. 6) is an extensible **T** stand. As already mentioned, it is used to display furnishings for men, women, and children, as well as upholstery and yard goods. It is made in heights ranging from 6 to 50 inches.

Fixture 7M (Fig. 7) is a stand used in displaying men and women's furnishings. The half-circle bar, which may be removed entirely, has a spread of 14 to 30 inches and is adjustable. The arrangement shown is especially suitable for the displaying of women's petticoats and skirts.



FIG. 7

Fixture 8M (Fig. 8) is a stand that is made both extensible and non-extensible. It comes in heights ranging from 6 to about 45 inches and is well adapted for showing all kinds of furnishings. The eight arms of this fixture will be found useful if a stocky trim is to be made.

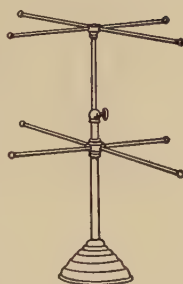


FIG. 8

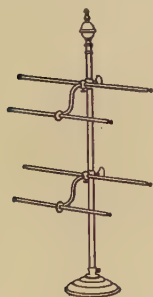


FIG. 9

Fixture 9M (Fig. 9) is a stand having four rods so arranged as to make it especially adapted for displaying gloves and neckwear. The double rods may be raised or lowered as desired. This style of display stand can be secured several heights—up to 45 inches.

Fixture 10M (Fig. 10) is a stand made in the same sizes as the **T** stand. The lower cross-rod can be raised, lowered, or removed, the same as the semicircle of fixture 7M. Men and women's furnishings, ribbons, laces, and embroideries can be draped on this style of display stand.

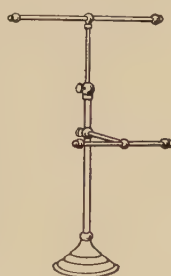


FIG. 10

Fixture 11M (Fig. 11) is a stand fitted with a triple-arm top and a cross-rod. The

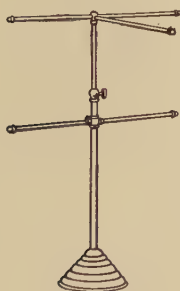


FIG. 11

cross-rod can be raised or lowered or turned to any angle; also, the projecting top rod can be removed. This style of stand is made in the same sizes as the **T** stand and is used to exhibit the same class of merchandise when a stocky trim is desired.

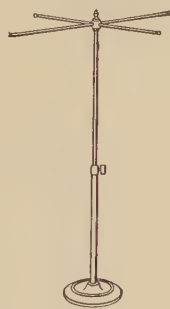


FIG. 12

Fixture 12M (Fig. 12) is a four-armed stand that can be raised or lowered. The rod section can be lowered by means of a thumbscrew, and a shirt easel, a single cross-rod, or a flat top can be placed on the standard at the top in place of the four arms.

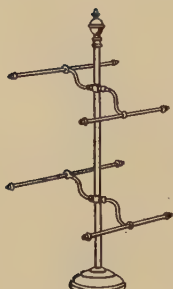


FIG. 13

Fixture 13M (Fig. 13) is a stand fitted with four arms that can be raised or lowered on the standard. Although similar to fixture 9M, the rods on each section are about twice as far apart, thus permitting larger articles to be displayed on the stand.

Fixture 14M (Fig. 14) is a display stand with three sets of cross-arms that can be raised or lowered on the standard. Any of the arms can be unscrewed from the ball socket. This style of stand is extensively used to display furnishings of all kinds. It is made in many heights and with one to five sets of cross-arms.

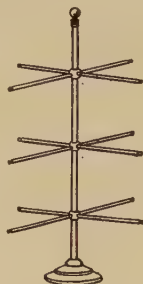


FIG. 14

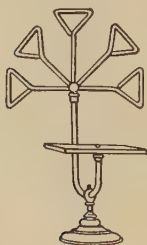


FIG. 15

Fixture 15M (Fig. 15) is a stand fitted with a shelf made of either glass or metal and five triangle-ended arms through which various articles may be draped. On the shelf may be placed jewelry or boxes of collars, handkerchiefs, underwear, or hosiery. This is the style of stand on which is displayed the hosiery foot form shown later in many of the display and unit illustrations.

Fixture 16M (Fig. 16) is a haberdashery stand that has many uses. The flat top is good for showing stock boxes of goods, such as collars, handkerchiefs, underwear, hosiery, etc., and through the diamonds may be draped neckwear, hosiery, handkerchiefs, and belts. Gloves also can be shown to good advantage on this style of haberdashery display stand.

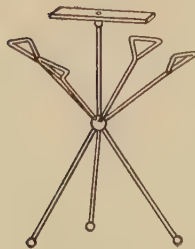


FIG. 17

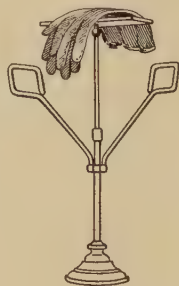


FIG. 16

Fixture 17M (Fig. 17) is a *tripod stand*. Such stands are used to display furnishings of all kinds, and are fitted with tops of the same design as those used on base stands.

Tripod stands are likely to be more top heavy than base stands, and for this reason are not so desirable.

Fixture 18M (Fig. 18) is a stand fitted with arms having rings, diamonds, or triangles at their ends. It is especially adapted for displaying neckwear, gloves, hosiery, belts, and handkerchiefs. The arms of this fixture are so shaped that boxed goods can be placed on them.

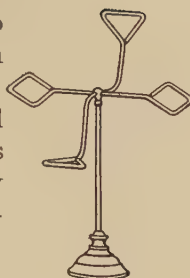


FIG. 18

Fixture 19M (Fig. 19) is a stand fitted with a shirt easel and three diamond-ended arms. It is suitable for showing gloves, neckwear, handkerchiefs, belts, suspenders, etc. The top of this type of stand can be raised or lowered, and the easel and arms can be tilted as desired.

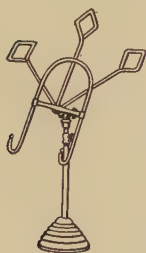


FIG. 19

Fixture 20M (Fig. 20) is a stand having a shirt easel at the top and a cluster of triangle-ended arms attached to the standard. These arms can be raised or lowered. By using this stand, neckwear, belts, and suspenders can

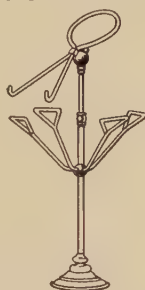


FIG. 20

be draped from the arms to the floor of the show window in graceful sweeps.

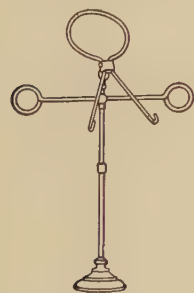


FIG. 21

Fixture 21M (Fig. 21) is a stand that can be adjusted by raising or lowering either the shirt easel or the straight cross-rod with ring ends. If a plain shirt easel is desired, the cross-rod may be removed. Suspenders, neckwear, handkerchiefs, or belts combine well

with shirts on this style of display stand.

Fixture 22M (Fig. 22) is a stand on which may be displayed three shirts. The top, or center, easel can be replaced with a glass or metal top, in which case gloves, neckwear, or other articles may be shown in

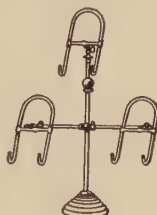


FIG. 22

combination with the shirts. Boxed merchandise or piece goods, such as embroideries, laces, etc., can also be shown on the easels of this style of display stand.

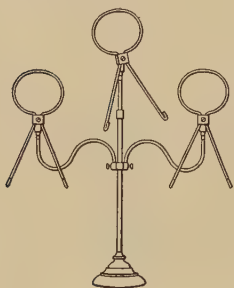


FIG. 23

Fixture 23M (Fig. 23) is a stand equipped with three shirt easels. These easels can be replaced with straight rods, flat tops, shoe clamps, or attachments with diamond or ring ends. This style of exhibiting stand is used to display shirts, as is shown later in many of the shirt displays.



FIG. 24

Fixture 24M (Fig. 24) is an adjustable standard with a small hook at the top. It is used to show coats, smoking jackets, or bathrobes. The hook can be removed. The coat, shown in outline in the figure, is suspended from its hanger.

Fixture 25M (Fig. 25) is an ordinary adjustable stand fitted with a coat hook and a cane-clasp attachment. Neckwear, gloves, or belts can be tastefully draped on the walking stick.

Fixture 26M (Fig. 26) is a stand made up of a cane and a base. The base is made of either metal or porcelain. By putting a cane through a coat hanger and giving it a few turns, a coat can be held at any desired height.

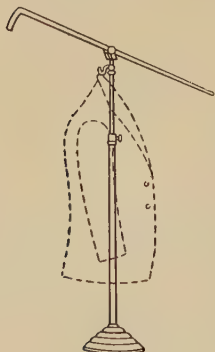


FIG. 25



FIG. 26

Fixture 27M (Fig. 27) is a stand designed

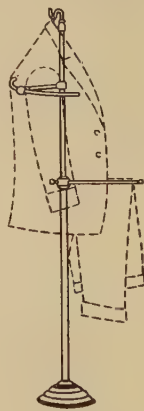


FIG. 27

to hold a two-piece suit. If desired, a vest can be placed on the arm in place of trousers; also, a hat, a belt, or a pair of gloves can be hung over the end of this cross-arm.

Fixture 28M (Fig. 28) is a clothing stand fitted with an adjustable shoulder projector. The vest and the trousers are hung over the cross-rod, which is also adjustable.

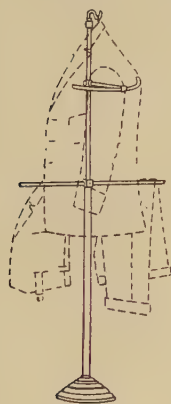


FIG. 28

Fixture 29M (Fig. 29) is a clothing stand useful for displaying two coats at one time. It is especially suitable for showing a full-dress and a Tuxedo coat. A cross-rod can be fastened to the standard of this display fixture if it is

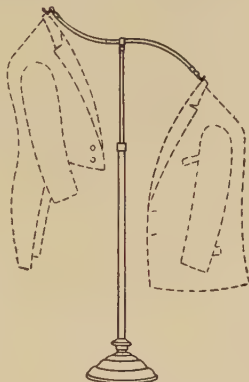


FIG. 29

desired to show a pair of trousers or a vest with the coats.

Fixture 30M (Fig. 30) is a bracket, or wall fixture, for displaying coats. It can be fastened to the back or the sides of show cases or show windows. The shoulder former of this fixture can be adjusted to fit any coat. The arm is made from 6 to 18 inches long.

Fixture 31M (Fig. 31) is a wall bracket for displaying clothing. The arm of this style of fixture ranges from 16 to 24 inches in length and is provided with a coat hook, as shown.

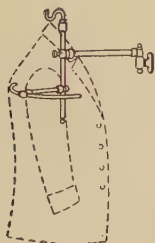


FIG. 30



FIG. 31



FIG. 32

Fixture 32M (Fig. 32) is a very simple wall bracket used to show men's trousers. It may be used on backgrounds or on the sides of show cases or show windows.



FIG. 33

Fixture 33M (Fig. 33) is a stand on which trousers may be displayed. A pair of trousers is folded evenly and placed over the rod, as illustrated in the figure. This style of stand can also be used for showing yard goods. It comes in three heights—24, 30, and 36 inches.

Fixture 34M (Fig. 34) is an umbrella stand. It is made in heights of 24 and 30 inches, capable of being adjusted to 45 and 57 inches. On the end of the standard is a clamp for holding a parasol, an umbrella, or a cane; it can be tilted to any angle. Any of the stands illustrated can be obtained with the style of base used on this fixture.



FIG. 35

Fixture 35M (Fig. 35) is another umbrella stand. It shows how the point of a parasol, umbrella, or cane may be gripped in a clamp. The base of the stand is made of white porcelain with gilt decorations, and the standard is of rope-design tubing. The clip shown in this fixture can be attached to almost any stand.



FIG. 34

Fixture 36M (Fig. 36) is a base stand used for displaying umbrellas, parasols, or canes. Stands of this kind are made in various designs, some having a half-circle arrangement, and with from 1 to 36 sockets.

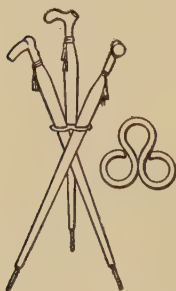


FIG. 37

Fixture 37M (Fig. 37) is a triple-ring umbrella, parasol, or cane holder. By placing three umbrellas in this holder, they can be displayed in tripod fashion, as shown. This style of fixture may also be slipped over a rod so that neckwear can be draped through the rings.

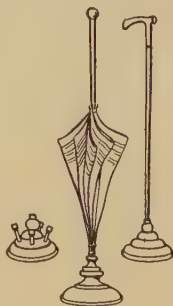


FIG. 36

Fixture 38M (Fig. 38) is a stand used to display furs or collarettes. It consists of a papier-mâché shoulder form supported on a metal base and standard, and can be adjusted to various heights up to 36 inches.



Fig. 38

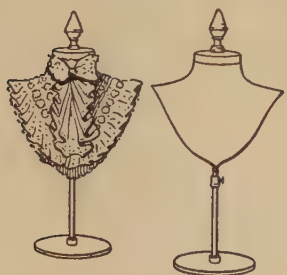


Fig. 39

Fixture 39M (Fig. 39) is a stand on which small collars, women's neckwear, necklaces, or feather boas may be shown properly. The shoulder form of this stand is covered with black, dark-wine, turquoise, purple, or white velveteen.

Fixture 40M (Fig. 40) is a stand designed to show small collarettes and women's fancy neckwear. The shoulder form is covered with either black or colored velveteen. This style of stand can be raised to 30 inches and lowered to 18 inches.



Fig. 40

Fixture 41M (Fig. 41) is an excellent side-wall bracket for displaying fur sets or collarettes. The shoulder form of this style of fixture is made of heavy papier mâché covered with Jersey cloth; in the better grades, however, black velveteen is used as a covering. The muff rod of this



Fig. 41

fixture can be removed if desired.

Fixture 42M (Fig. 42) is a useful stand for displaying furs and collarettes, which, in combination with a muff, can be shown to their full value.

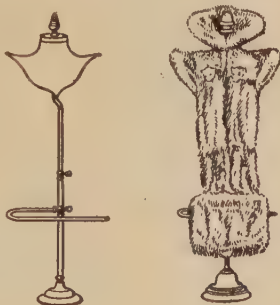


Fig. 42

This style of display fixture is 36 inches high, but it may be extended up to 64 inches. The curved-rod arm on the lower standard can be raised or lowered by means of a thumbscrew.



FIG. 43

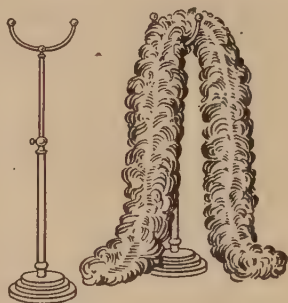


FIG. 44

Fixture 43M (Fig. 43) is a plain **T** stand (see fixture 6M); it is shown here in order to bring out the proper method of displaying furs on it. By arranging furs in the manner shown in the figure, their value is lost. The proper way to drape the furs and thus bring out their value is to catch the collar of the fur piece and hang it over the cross-rod, allowing one of the ends to hang longer than the other. In this way, the top part of the collarette will be shown.

Fixture 44M (Fig. 44) is a stand fitted with a half-circle top. This style of fixture is suitable for showing fur collars, feather boas, dress fabrics, silks, etc. It can be raised to 40 inches or lowered to 18 inches if wanted for the front of a display.

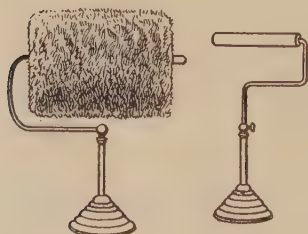


FIG. 45



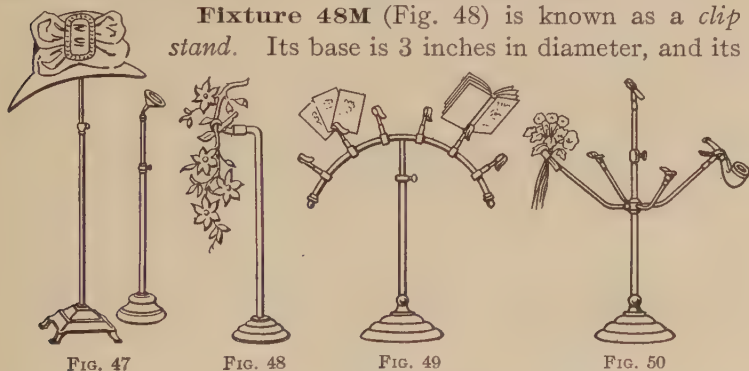
FIG. 46

Fixture 45M (Fig. 45), known as an *individual muff holder*, plays an important part in the display of furs. This

style of stand is made especially to place on the floor near the front of a display. It may be adjusted to 22 inches from 12 inches.

Fixture 46M (Fig. 46) is made to fasten on top of a shelving cornice, as shown. It may be adjusted to any height on the upright rod and swung to face any direction. Fixtures of this style are made with or without ring or half-ring ends, and are used for displaying all kinds of light furnishings.

Fixture 47M (Fig. 47) is a stand especially adapted for the showing of millinery, men's hats, or babies' caps. It has a fancy four-footed base, which design may be had on any of the fixtures described, and also a cup-shaped hat holder. This style of stand comes in heights of 6, 12, 18, and 24 inches, and can be adjusted to double these heights, less 2 inches.



standard comes in heights of 3, 6, 9, 12, and 15 inches and is non-adjustable. This style of fixture is used to show artificial flowers, feathers, and ribbon bows, as well as pipes, cigar and cigarette holders, or any article of merchandise that may be held by the clip.

Fixture 49M (Fig. 49) is a clip stand that is excellent for showing artificial flowers, stationery, ribbon bows, or smokers' articles.

Fixture 50M (Fig. 50) is another style of clip stand. It is used for showing the same articles as any clip stand. Each of the four arms at the sides is 10 inches long and may be turned downwards.

Fixture 51M (Fig. 51) is a fan or show-card stand. The hinge of the fan is held in the cup, while the two scrolls hold the sticks of the fan.



FIG. 51



FIG. 52



FIG. 53

Fixture 52M (Fig. 52) is a stand used to display flowers or feathers. Stands of this style are made of metal or porcelain. They come in heights of 5, 7, 9, and 11 inches and have a small hole through the center to hold the articles.

Fixture 53M (Fig. 53) is a jardinière. It is made of either brass or copper, and may be used in special decorations. The jardinière is excellent for separating two lines of merchandise in a display; it is also used for decorative purposes. In either case, it is placed on a pedestal and is filled with a palm or a fern.

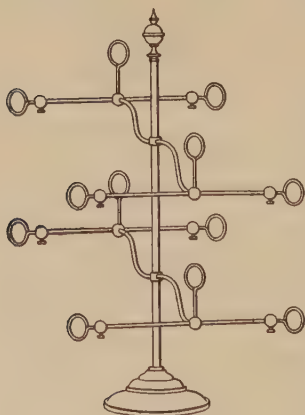


FIG. 54

Fixture 54M (Fig. 54) is a stand on which may be shown a large quantity of stock. Not only may merchandise be shown in the rings, but on the cross-rods as well. The ring ends of the cross-rods telescope, and by pulling them

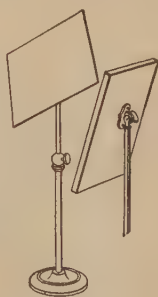


FIG. 55

out, the stand may be increased to almost double its size.

Fixture 55M (Fig. 55) is a stand equipped with a top that can be tilted to any angle. The diamond-shaped top is

adapted for showing men's shirts, and the square-shaped top is suitable for displaying shirtings and yard goods of all kinds.



FIG. 56

Fixture 56M (Fig. 56) is an ordinary standard and base fitted with an adjustable clamp. This style of clamp is used to hold a cane, as shown. It can be attached to almost any style of display stand.



FIG. 57

Fixture 57M (Fig. 57) is used for displaying umbrellas and canes on the sides or back-grounds of show windows or

show cases. Fixtures of this style are made with from 2 to 14 sockets. Canes or umbrellas can be hung from rod fixtures by means of the spiral hook shown at the bottom of the figure. The point of an umbrella is gripped by the spiral.

Fixture 58M (Fig. 58) is an umbrella, or cane socket. It is made with a screw instead of a base, so that it may be fastened to the floor, to show cases, or to the edge of arches, scrolls, or strips of wood for special display.



FIG. 58

Fixture 59M (Fig. 59) is another type of umbrella, parasol, or cane socket. This style of fixture is arranged so that it can be screwed to a flat-surface background or to the side



FIG. 59

of a show window or a show case. In making fan-shaped displays on arches, this fixture will be found very useful.

SIDE-WALL FIXTURES

13. Keyhole Strip.—In many displays it is necessary, either on account of lack of space or the desire to make stocky trims, to utilize the side walls or the blank spaces of the background, in which case side arms or wall shelves must be brought into use. There are two methods of fastening such fixtures to the wall. In one, the socket into which the arm of the fixture fits is fastened to the wall by means of screws. This method is not desirable, because in changing

the position of a socket the woodwork will be marred. In the other method, the fixtures are held in place by what is known as a **keyhole strip**, which is permanently fastened in place in the show windows. This device, as shown at *a*, Fig. 60 (fixture 60M), consists of a strip of metal containing keyholes spaced 2 inches apart. The sockets for the arms used with this strip are provided with a key that fits into the keyholes. After inserting, the key of the socket is pushed

down so that it slips into the narrow part of the keyhole. In this way the fixture is held rigidly in place.

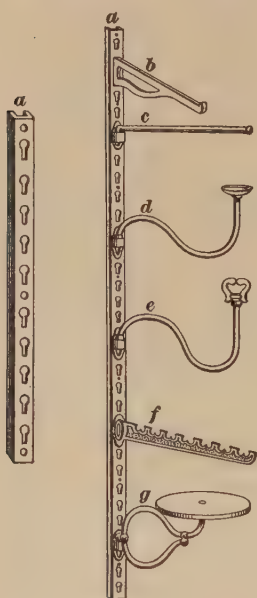


FIG. 60

14. Arms for Keyhole Strip.

At *b*, *c*, *d*, *e*, *f*, and *g*, Fig. 60, are shown several styles of arms and brackets that can be used with the keyhole strip. The arms of tree and hanging fixtures also can be used with this device, as they are provided with the same style and size of key.

The arm *b* is a glass-shelf bracket that is made in lengths of 6 to 14 inches. Glass shelves on side walls or backgrounds are excellent for showing stationery, groceries, druggists' sundries, or fancy goods of all kinds. They are useful in making stocky displays of shoes, furnishings, clocks, candy, etc.

The arm *c* is known as a straight side arm. It is made in lengths of 10 to 28 inches.

The double-curve arm at *d* is fitted with a hat cup, and that at *e* with a shoe clip. The tops of these arms can be replaced with various other styles of tops. A straight-rod top screwed to the top of a double-curve arm makes an excellent device for displaying all kinds of haberdashery, women's furnishings, or infants' wear.

The saw-tooth ratchet bracket *f* is used for holding horizontally rods that fit between the teeth of the arm. By

means of a thumbscrew this style of bracket can be tilted to almost any angle.

The glass-shelf bracket *g* is made in various sizes and is appropriate for displays of jewelry, clocks, candy, groceries, bric-à-brac, or drugs.

TREE FIXTURES AND ATTACHMENTS

15. Tree fixtures are so named because of the many arms that branch out from the standard. The standards of tree fixtures are usually from $\frac{7}{8}$ inch to $1\frac{1}{4}$ inches in diameter and are reinforced on the inside with a steel rod. The bases are from 10 to 14 inches in diameter and are made very heavy, so that the fixture will not topple over when trimmed.

In Fig. 61 (fixture 61M) is shown an 8-foot tree fixture made of square tubing in Grecian design. This fixture,

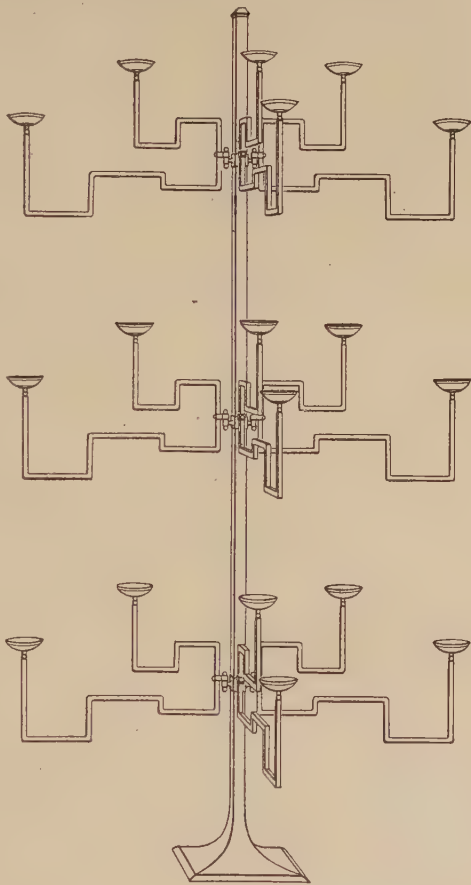


FIG. 61

as shown, is fully equipped with hat tops, but these may be removed and any of the fixture tops shown in Fig. 62 used instead. Small stands for showing all lines of merchandise are made to match this style of tree fixture, both in design and in tubing.

16. The arm attachments shown in Fig. 62 may be described as follows:

That at *a* is a cross-rod. It is 10 inches long and is used to display men and women's furnishings and infants' wear.

That at *b* is a glass plate that may be adjusted to almost any angle. It is used to display shoes and boxed merchandise.

That at *c* is a papier-mâché form for displaying collarettes, women's neckwear, and furs.

That at *d* is an arm equipped with a hat cup. It is used for showing men and women's hats, as well as infants' caps.

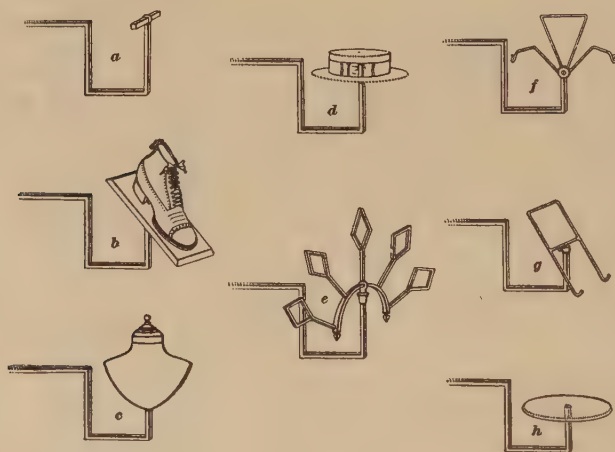


FIG. 62

That at *e* is an arm fitted with five diamond-shaped ends arranged in the shape of a fan. This is an excellent device for showing haberdashery, etc.

That at *f* is a fan holder; that at *g*, a box or a shirt easel; and that at *h*, a circular glass shelf, which is made in diameters of 6 to 12 inches.

By carefully combining attachments *a*, *e*, and *g*, ample space on a tree fixture can be secured for a general haberdashery trim consisting of a variety or a mixed display of furnishings.

17. Haberdashery Tree Fixture.—In Fig. 63 (fixture 63M) is shown a 6-foot tree fixture especially adapted for displaying men's furnishings, women's gloves and handkerchiefs, or any small articles of merchandise that can be easily draped through the small diamond-ended rods or over the small horizontal rods. A special feature of this fixture is the half-circle arms. These arms not only can be raised or lowered on the standard, but can also be adjusted in the socket in which they are held. For instance, by pulling the

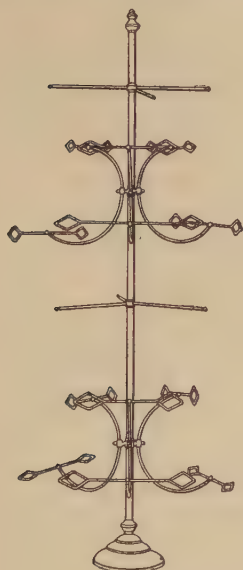


FIG. 63

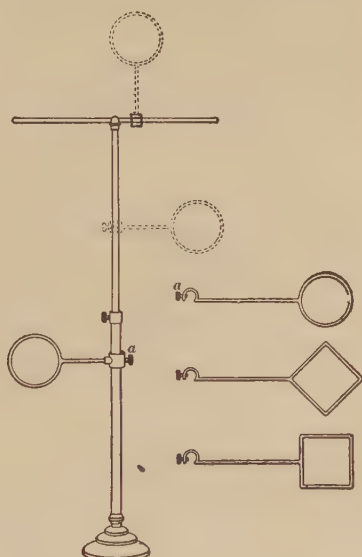


FIG. 64

half-circle arms down through their sockets, the lower part of the arms will be farther away from the standard and the upper part will be nearer the standard, making a decided change in the appearance of the fixture. By replacing the three upper sections of this style of fixture with arms of other design, various combinations can be made.

18. Improvised Tree Fixture.—A tree fixture can be easily made by arranging some of the attachments shown in Fig. 64 (fixture 64M) on a **T** stand. One end of an attach-

ment of this type is in the shape of a diamond, a square, or a ring, and the other end has an open collar that will fit on the standard or the cross-arm of the stand. This collar may be firmly secured in place by means of a thumbscrew, as shown at *a*. Attachments of this kind can be tilted to almost any position and may also be used on horizontal-rod fixtures.

HORIZONTAL-ROD STANDS AND PENDANTS

19. Horizontal-Rod Fixtures.—In Fig. 65 (fixture 65M) is shown a **horizontal-rod fixture** with two standards and two bases. The standards are 6 feet high and 1 inch in diameter, and the diameter of the bases is 13 inches.

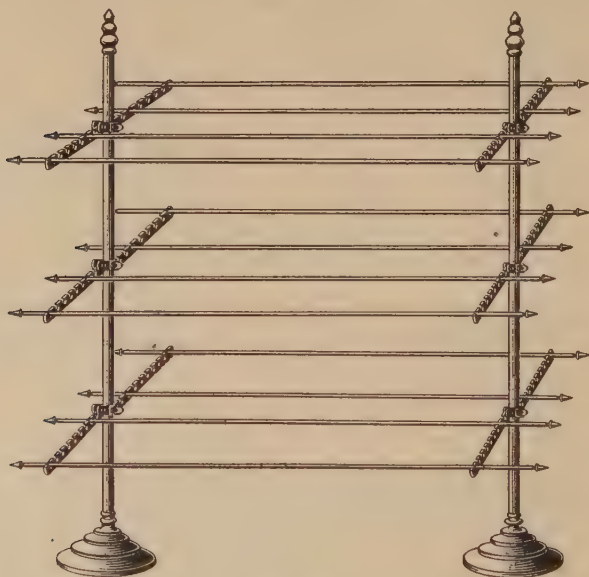


FIG. 65

The bases are made very heavy so that the stand will not topple over when trimmed. The horizontal rods are usually $\frac{1}{2}$ inch in diameter, and come in lengths of 4 to 10 feet. To support 10-foot rods, however, three uprights are required. The ratchet arms are made in lengths of 12 to 24 inches,

the 18-inch ratchet being the one in general use. By means of thumbscrews, the ratchet arms can be adjusted to almost any angle. For shallow windows, single ratchet arms, instead of the double arms shown in the figure, will usually be found sufficient.

20. Single Pendant.—In Fig. 66 (fixture 66M), is shown a **single-pendant suspended fixture** for displaying men's furnishings, etc. A particular feature of this fixture is the trolley rod *a*, which is fastened to the ceiling by means of screws. The purpose of the trolley is to allow the fixture to be moved back and forth in the window. The trolley rod will prove convenient in making stocky trims, as in such cases it is often necessary to move a fixture of this kind to the rear of the show window; also, when washing windows, it will permit the fixture to be easily moved back out of the way. In place of the straight arm shown in the figure, many of the fancy-shaped arms already described may be attached to this fixture. There is usually 2 feet of space from the floor to the swing arms, giving ample floor space, which is usually considered an advantage.

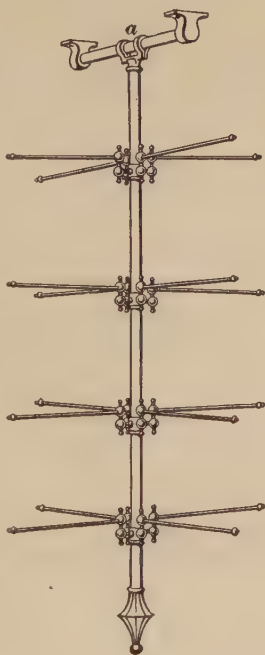


FIG. 66

21. Double Pendant.—Fig. 67 (fixture 67M) shows a **double-pendant suspended fixture**. The parts of this fixture are practically the same as those in the horizontal-rod fixture shown in Fig. 65, but instead of resting on bases the standards are fastened on trolley rods attached to the ceiling in the same manner as that of the single-pendant fixture. As in other horizontal-rod fixtures, the rods are placed across the double ratchet arms, which are hinged so that they may

be tilted to almost any position. However, it is the custom to slant the arms of this fixture in the manner shown in the

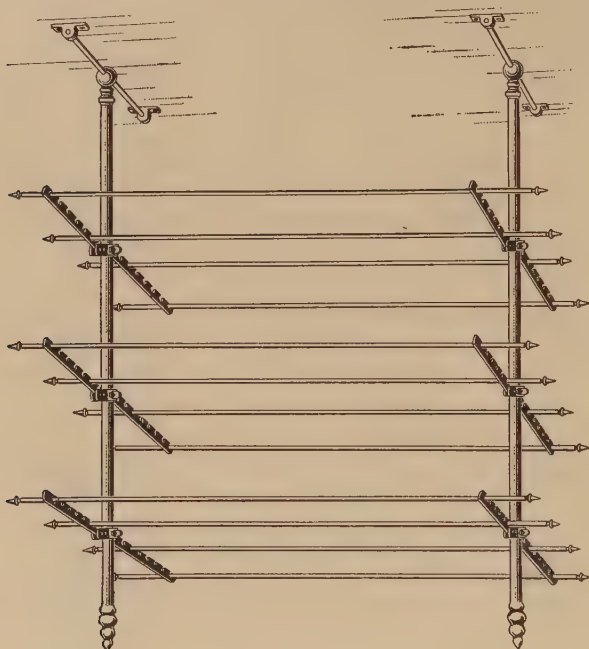


FIG. 67

figure. Men's haberdashery and women's furnishings can be displayed to advantage on this style of fixture; in fact, there is practically no limit to the uses to which it may be put. By clamping any of the ring attachments on the cross-rods so as to break up the straight lines, the appearance of the fixture will be greatly improved.

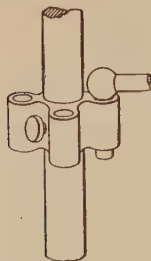


FIG. 68

22. Slide Collar.—In Fig. 68 is shown a **slide collar**, which is a device in which the arms of a display fixture fit. The collar is held in place on a standard by means of a setscrew or a thumbscrew, as shown. Although mentioned in connection with horizontal-rod stands and pendants, the slide collar can be used on almost any style of fixture.

WINDOW-TRIMMING ACCESSORIES

23. Fig. 69 illustrates several articles that are both useful and necessary in making displays.

At (a) and (b) are shown two **price-ticket holders**, each consisting of a long pin attachment and a spring card

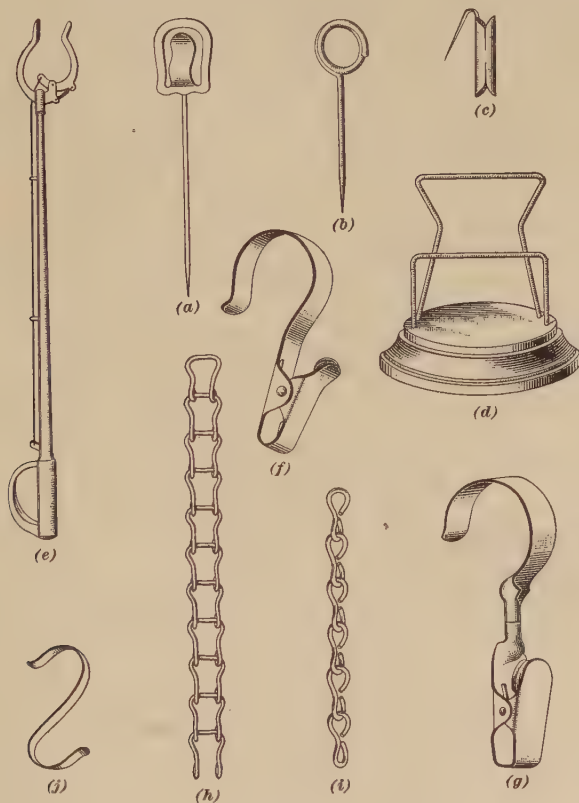


FIG. 69

grip. A card holder smaller than the two just mentioned is shown at (c). This device has a pin hook with a sharp point, and is especially suitable for placing price tickets on clothing, shoes, millinery, or any article of merchandise on which small cards are used.

At (d) is shown a **base ticket holder**. The base of this ticket holder is about the size of a half dollar and is heavily weighted. The price ticket is held in an upright position by two wire prongs. This style of ticket holder is generally used in displays of jewelry, shoes, millinery, furnishings, etc.

At (e) is shown a practical device known as a **window reacher**. It consists of a rod to one end of which are attached two prongs that are operated by a gripping attachment in the handle. The window reacher is made in lengths ranging from 2 to 6 feet. By means of this device articles can be removed from a display without disturbing the surrounding merchandise.

At (f) and (g) are shown two styles of hooks extensively used to suspend merchandise. Such hooks are commonly known as **bulldog hooks** on account of the spring jaw, which grips the merchandise firmly.

At (h) and (i) are shown two styles of chain, and at (j) is shown what is known as an **S hook**. By means of two or more chains similar to that shown at (h) and several **S** hooks and fixture rods it is possible to make an inexpensive horizontal-rod fixture for a show window or a show case. The chains are suspended from the ceiling, and at suitable distances the **S** hooks, which hold the rods, are placed in the links of the chain. On such fixtures can be displayed the various classes of merchandise exhibited on any of the more elaborate horizontal-rod fixtures.

WIRE DISPLAY FIXTURES

24. Display fixtures made of wire are not so expensive as those made of metal tubing or of wood, nor are they so attractive or so substantial; nevertheless, there are occasions when wire fixtures will answer the purpose equally as well as more elaborate fixtures. In Fig. 70 is shown a group of the most practical wire fixtures on the market. Such fixtures are usually made of tinned-iron wire, but manufacturers will make them to order out of brass wire. Of course, brass-wire

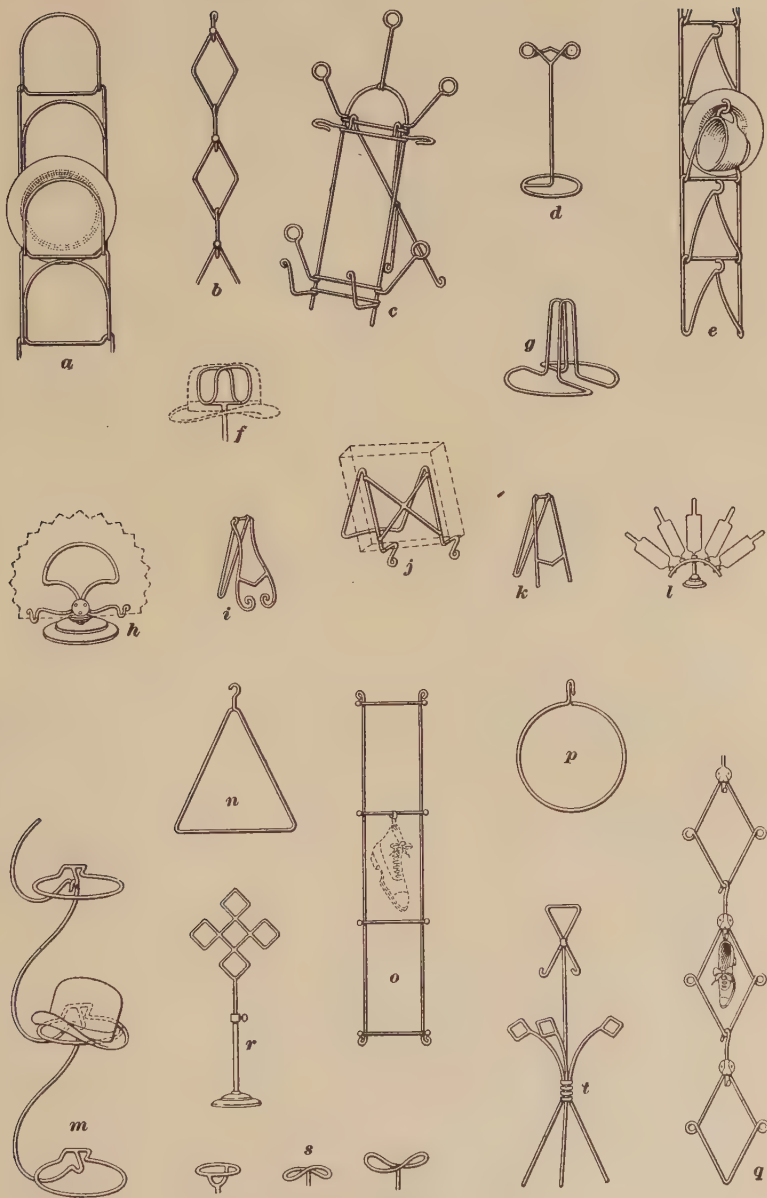


FIG. 70

fixtures have a better appearance than those made of tinned wire, but as a large part of a fixture is usually covered with merchandise in displays, the additional cost of brass-wire fixtures does not warrant their use.

25. At *a*, Fig. 70, is shown a wire plate rack. This style of fixture can be arranged to hold individual plates or, as shown, can be linked together so as to hold several plates.

At *b* is shown a chain arrangement of 3"×4" diamond-shaped wire loops. As many of these parts as desired may be connected together. A fixture of this style is especially suitable for showing neckwear, gloves, handkerchiefs, or any other article of merchandise that can be placed through the diamond-shaped wires.

At *c* is shown a unique shirt easel with 2-inch ring attachments for displaying haberdashery. At the top of this fixture are two hooks in which may be held a walking stick in a slanting position. These hooks may also be used to display other merchandise.

At *d* is shown a card stand made expressly for counter use. This stand has a wire base, and at the top are two springs in which a card may be held.

A cup-and-saucer rack is shown at *e*. Like the plate rack shown at *a*, this rack can be linked together so that cups and saucers may be displayed in the manner illustrated.

At *f* is shown a display top on which a man's or a woman's hat may be shown. This hat top is made so that it will hold a Fedora, or creased hat, in perfect shape.

By using the double-prong fixture shown at *g*, piece goods, such as all yard goods rolled on boards, can be held in an upright position. The two prongs of the fixture are inserted into the end of the piece of goods, clamping the board.

At *h* is shown a wire fan holder or card holder.

At *i* and *k* are shown two styles of easels that will be found useful in displaying such merchandise as embroidery, laces, etc. in boxes or in full stock pieces. These stands can also be used to display any article of merchandise that can be shown in a slanting position. Another style of wire easel,

with a box shown in position by means of dotted lines, is illustrated at *j*.

The simple device shown at *l* can be used to advantage in displaying kid gloves. The glove is pulled down over the fixture, and one finger of the glove is held in an upright position by the finger-shaped wire. Stands of this kind are made in various designs and to hold from one to twenty-four gloves. These wire glove formers have a clamp that allows them to be fastened to many of the rod stands previously described.

At *m* is shown a fixture for exhibiting hats. This fixture, like the plate rack *a*, is made in sections, which can be linked together so as to display several hats. It will be found useful in making stocky trims.

At *n* and *p*, respectively, are shown a wire triangle and a wire ring. These devices are provided with a hook so that they can be placed over a horizontal rod or hooked into chains. They are utilized in haberdashery displays.

At *o* and *q* are shown two flexible racks and the manner in which shoes may be displayed on them.

At *r* is shown a five-diamond haberdashery stand, and at *t*, a shirt easel and haberdashery stand. The easel at the top of the fixture *t* is stationary; that is, it cannot be adjusted to various slants and heights as can the metal-tubing fixtures previously described.

Three styles of hat holders are shown at *s*. The one at the right is intended for women's millinery, and the other two for men and boys' hats.

CARE OF FIXTURES

26. Fixtures made of metal are considered to be the best for display purposes, and while they are usually very strong, occasionally, owing to an accident or to careless handling, some of them are liable to become broken. It is well, therefore, in all well-stocked fixture rooms, where all fixtures that are not being used in a display are kept, to have a few simple tools on hand so that repairs can be made as soon as a fixture

is broken, and thus avoid an accumulation of broken and useless fixtures.

A brass worker's die and tap, which can be purchased at little cost from any hardware dealer, will be found very useful for repairing metal fixtures. The tap is used to thread the hole of a base, and the die to put a new thread on a broken standard. A little practice with these tools will make a person proficient in repairing any metal stand that becomes broken, and in this way a great many useful fixtures will be saved from the junk heap.

27. Repairing Broken Standards.—The weakest part of a metal fixture is at the point where the standard screws into the base. This part of the fixture is more liable to break than any other, because of the threads cut into the standard. If a standard breaks off and the threaded end remains in the base, care should be taken not to injure the threads in the base when removing the broken part. The best way to remove a broken piece of threaded tubing is to place a three-cornered file into the hole, tap it very lightly with a hammer, and then turn it to the left so as to unscrew the broken part. The fixture can be repaired by putting a new thread on the standard and then screwing it into the base.

28. Repairing Worn Thumbscrews.—Occasionally, the threads on a thumbscrew, or adjusting screw, of a fixture become so badly worn that they will not hold. In such cases, new threads must be cut on the thumbscrew and a new hole small enough to receive the newly cut thumbscrew must be made in the collar of the standard. This hole should be drilled and tapped opposite the original hole so as not to weaken the collar.

A simpler method often employed is to lay the worn thumbscrew on a piece of iron and then give the threads a few light taps with a hammer. This will tend to flatten part of the thumbscrew threads and to expand the remainder sufficiently to make a good fit in the threaded hole of the collar of the standard.

29. Cleaning of Fixtures.—In addition to keeping fixtures in repair, it is necessary occasionally to clean them thoroughly. There is nothing that mars the appearance of a merchandise display more than a broken, bent, or unclean fixture.

Bright nickel-plated fixtures require more attention and cleaning than do fixtures with any of the other finishes, as they have a tendency to become foggy in appearance. Fixtures with any style of finish can be cleaned by using a good metal polish. Care should be taken, however, to use a polish that contains no grit. A polish made up of whiting and either ammonia or benzine will be found satisfactory. After a fixture has been thoroughly cleaned, it is a good plan to coat it with transparent metal lacquer. The lacquer can be purchased at any paint store, and is applied with a camel's-hair brush. Of course, it is not absolutely necessary to coat the fixtures with lacquer, but if this is done, their brightness will be prolonged and they will not have to be cleaned so often.

WOODEN DISPLAY FIXTURES

FACTORY AND HOME-MADE FIXTURES

GENERAL REMARKS

1. Although not so substantial as fixtures made of metal, **wooden display fixtures**, on account of their artistic appearance, have won their way into many of the fashionable haberdashery, clothing, shoe, hat, millinery, and drug stores. The show windows of such establishments usually have permanent mirror and hardwood paneled backgrounds, and often the backgrounds are made of such fine woods as walnut, mahogany, cherry, maple, and oak. In most cases, also, the show windows are fitted with parquetry floors, making a most desirable combination for the display of goods. With such surroundings, display stands made of wood can be used advantageously.

Wooden display stands can be obtained from fixture concerns in a large variety of designs, including the majority of shapes in which metal fixtures are made and many of the arts-and-crafts designs, which will be considered later.

Wooden fixtures are finished to match the various kinds of wood used in the background just mentioned, and in selecting them a finish that either matches the background or harmonizes with it should be chosen. The mahogany and oak finishes are best adapted for all-round use.

Although, as just mentioned, a large assortment of wooden stands can be obtained from fixture dealers, there seems to be no limit to the possibilities of the window trimmer in

making stands to meet the requirements of the various goods to be displayed. All styles of wooden stands, including those made at the factory and those made by the trimmer, will therefore be discussed in this Section.

FACTORY-MADE FIXTURES

EXAMPLES OF STANDS

2. Descriptions and illustrations of **factory-made wooden stands**, or those which can be purchased from fixture concerns, will be taken up first. Some of these stands are practically the same as the metal stands in regard to dimensions, and others vary considerably. It will be well, therefore, to note carefully the following descriptions in order to learn the difference between these stands. As in *Metal Display Fixtures*, the stands are lettered and numbered so that they can be easily referred to. In this Section, the letter W refers to wooden fixtures; G, to glass fixtures; and so on.

Fixture 1W (Fig. 1) is a **T** stand used to display men's, women's, or children's furnishings on counters or in windows. It is made with a 6-inch base and a $\frac{7}{8}$ -inch adjustable standard, and comes in heights of 12 to 20, 18 to 30, and 32 to 40 inches. The top is made in lengths of 12, 18, or 24 inches.



FIG. 1

Fixture 2W (Fig. 2) is a stand on which may be shown men's or women's hosiery, gloves, neckwear, collars, etc. It is made with a 5-inch base and of $\frac{1}{2}$ -inch stock throughout. It stands 24 inches high, and the diamonds spread 18 inches over all.

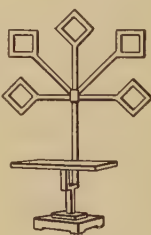


FIG. 2

The shelf near the bottom of the display stand is 4 in. $\times$ 9 in.

Fixture 3W (Fig. 3) is a stand used to show men's, women's, or children's furnishings. The cross-arm is adapted

for underwear and hosiery display. This style of stand has an 8-inch base and a $\frac{7}{8}$ -inch standard that may be adjusted from 12 to 20 inches or from 18 to 30 inches. The top spreads to 18 inches, and the cross-arm to 20 inches over all.

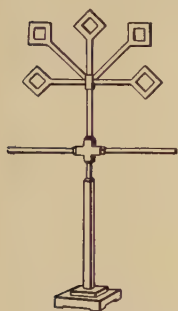


FIG. 3

Fixture 4W (Fig. 4) is a stand on which may be displayed men's or women's collars, neckwear, and gloves. It is made with a 7-inch base and a $\frac{7}{8}$ -inch adjustable standard in two heights—12 to 20 inches and

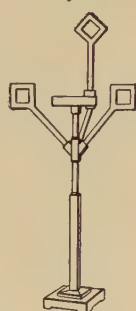


FIG. 4

18 to 30 inches. The diamond arms spread 10 inches.

Fixture 5W (Fig. 5) is a stand suitable for displaying

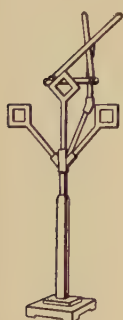


FIG. 5

shirts with gloves, neckwear, or belts, the latter passing through the diamonds. It is made with a 7-inch base and a $\frac{7}{8}$ -inch adjustable standard in two heights—12 to 20 inches and 18 to 30 inches. The diamond arms spread 10 inches.

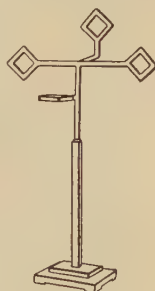


FIG. 6

Fixture 6W (Fig. 6) is a stand for showing neckwear, gloves, hosiery, underwear, and belts. It is made with a 7-inch base and a $\frac{7}{8}$ -inch adjustable standard in two heights—16 to 24 inches and 22 to 30 inches. The diamond ends are 4 inches in diameter.

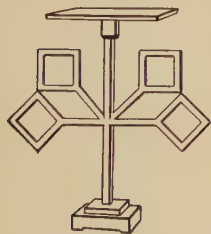


FIG. 7

Fixture 7W (Fig. 7) is a stand on which furnishings of all kinds may be displayed. The flat top is used for showing boxes, jewelry, shoes, etc. This style of stand has a 4-inch base and a $\frac{1}{2}$ -inch standard that may be 16, 18, or 20 inches high over all. The size of

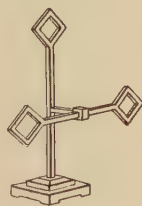


FIG. 8

the flat top is 4 in. $\times$ 8 in. Other styles of tops can be used.

Fixture 8W (Fig. 8) is a non-adjustable stand suitable for showing hosiery, belts, gloves, handkerchiefs, etc. This style of stand is made in heights of 18, 24, and 30 inches, with arms having spreads of 10, 14, and 18 inches. The size of the diamonds is 3 in. $\times$ 4 in.



FIG. 9

Fixture 9W (Fig. 9) is a haberdashery stand that is made in heights of 12, 18, and 24 inches. Each of the two diamonds is 3 inches in diameter. The triangular top piece is suitable for displaying neckwear.

Four-in-hand ties are usually tied in a loose knot and placed on the pointed end of the slanting top

Fixture 10W (Fig. 10) is a collar-and-tie stand. Jewelry, boxes of collars or other merchandise, and various articles can be shown on top of collar holder.

This style of stand has a 4-inch base and a $\frac{1}{2}$ -inch non-adjustable standard. The standard is made in heights of 10, 12, 14, and 16 inches, and can be secured in various finishes.



FIG. 11

Fixture 11W (Fig. 11) is a hat display stand. It has a 6-inch base and a $\frac{7}{8}$ -inch standard. The standard comes in heights of 12, 18, and 24 inches, and may be extended to any height up to twice the heights mentioned, less 2 inches.

In place of the cup-shaped top for holding a hat in position many other styles of tops can be used.

Fixture 12W (Fig. 12) is a stand that may be used for showing underwear, hosiery, shoes, and, in fact, an endless variety of merchandise, but is especially adapted for displaying boxed goods.

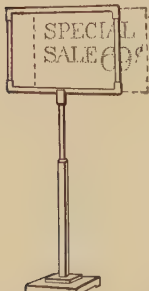


FIG. 13

This style of fixture has an 8-inch base and an adjustable standard that is made in several heights.



FIG. 12

Fixture 13W (Fig. 13) is a show-card stand. The frame for the show-card is made in several sizes, to hold cards ranging from $\frac{1}{16}$ sheet to a full sheet. The style shown in the illustration is intended for a card 11 in. $\times$ 14 in., or a half sheet. It has a 6-inch base and a $\frac{7}{8}$ -inch adjust-

table standard. The standard comes in two heights—12 and 18 inches. The former can be extended to 22 inches and the latter to 34 inches, measured from the floor to the bottom of the card holder.

Fixture 14W (Fig. 14) is a shirt or a box display stand. Underwear may be shown to good

advantage on this style of stand, provided the easel is first covered with a piece of cardboard. This stand has a 6- or an 8-inch base and a $\frac{7}{8}$ -inch adjustable standard. The standard comes in two heights—12 and 18 inches. The former may be extended to 22 inches and the latter to 34 inches.



FIG. 14



FIG. 15

Fixture 15W (Fig. 15) is a shirt-and-tie easel. This style of fixture will prove very useful if display space is limited. Hosiery, neckwear, handkerchiefs, or gloves may be shown to excellent advantage in the six diamonds if displayed with a shirt.

Fixture 16W (Fig. 16) is a combination shirt and T stand. Boxes as well as show-cards can be placed on the shirt easel. This style of stand is made with a 7-inch base and a $\frac{7}{8}$ -inch standard that can be extended from 12 to 20 inches or from 18 to 30 inches. All parts of this fixture are adjustable.

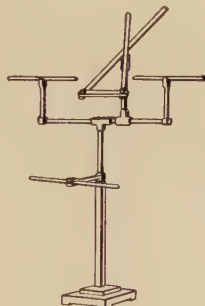


FIG. 16

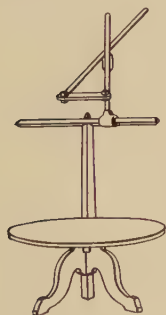


FIG. 17

Fixture 17W (Fig. 17) is a combination table and stand that can be used to display wearing apparel of all kinds for men, women, or children. The stand is 36 inches high over all, and the table top is 17 inches above the floor. The top rod is 24 inches long, and the oval table top is 18 in. $\times$ 30 in. The easel is removable.

Fixture 18W (Fig. 18) is a pedestal on which various articles of merchandise may be displayed. Several styles

of tops that may be placed on the pedestal are shown in the figure. These tops are used in the same manner as glass shelves and are finished to match the pedestal or the window background.

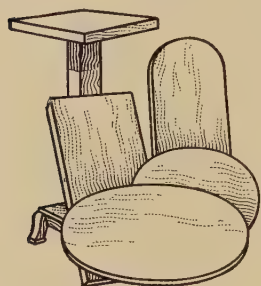


FIG. 18

thick. The lumber used is oak with Mission finish. Neckwear, gloves, hosiery, suspenders, handkerchiefs, etc.

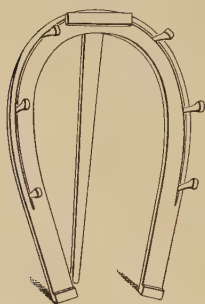


FIG. 20

The strip in the back is hinged at the top and serves to hold the fixture easel-fashion.



FIG. 22

and a $1\frac{1}{4}$ -inch tapered standard. The standard, which is non-adjustable, comes in heights of 18, 24, 30, 36, and 40 inches.

Fixture 19W (Fig. 19) is a haberdashery stand in arts-and-crafts design. It is 30 inches high, with arms 18 inches long, 1 inch thick, and 3 inches wide. The standard is 4 inches wide and 1 inch

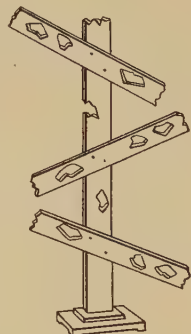


FIG. 19

ring stands. The irregular shape of the holes and notches adds an artistic effect.

Fixture 20W (Fig. 20) is a haberdashery stand in the shape of a horseshoe. This horseshoe design is very suitable for displaying neckwear, gloves, handkerchiefs, etc. It is made in heights of 18, 24, and 30 inches.

Fixture 21W (Fig. 21) is an individual coat stand. This stand is made with an 8"×10" base, and an 18-inch standard that may be adjusted to 34 inches. A hook on which to hang a coat is provided at the top of the standard.



FIG. 21

Fixture 22W (Fig. 22) is a T stand suitable for displaying yard goods or upholstering materials. This style of stand has a 10-inch base

Fixture 23W (Fig. 23) is a clothing stand. This fixture is made similar to fixture 22W. It is provided with two brass knobs from which a coat may be suspended.

Fixture 24W (Fig. 24) is a clothing and haberdashery stand. The standard is 36 inches high and the arms 12 inches long. At the end of each arm is a brass hook on which coats, smoking jackets, or bath robes may be hung. Special attention is called to the design of the base used on this fixture.

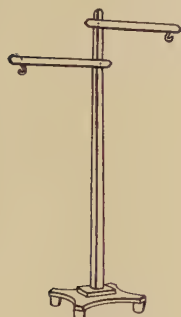


FIG. 24

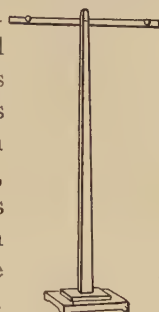


FIG. 23

Fixture 25W (Fig. 25) is a belt or neckwear stand, for use on a counter rather than in a display window. It is made with a 10-inch base and a $1\frac{3}{4}$ -inch tapered standard. The top is placed on the standard at an angle so that belts of different length will hang even. The top is 54 inches above the base and in it are driven 3-inch brass pins.



FIG. 25

Fixture 26W (Fig. 26) is a bust form consisting of a regular papier-mâché clothing form covered with black Jersey cloth and a wooden standard and base. This style of form is also made with a metal standard and base and in all finishes.



FIG. 26

Fixture 27W (Fig. 27) is an oval-top shoe stand. It is made with a 6-inch base and a $\frac{7}{8}$ -inch standard, which comes in various heights. The oval is 5 in. $\times$ 9 in. and is placed on the standard in a slanting position.



FIG. 27

Fixture 28W (Fig. 28) is a heart-shaped shoe stand. Two shoes may be shown on the heart-shaped slanting top. It is 11 in. $\times$ 16 in. in size, and its standard may be adjusted to various heights.

Fixture 29W (Fig. 29) is a shoe tree on which may be placed three shoes in a slanting position. This style of stand

is made in heights of 12, 18, and 24 inches and is non-adjustable. Both men and women's furnishings may also be shown to good advantage on this style of display stand.

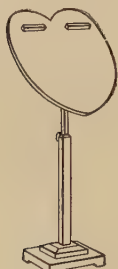


FIG. 28

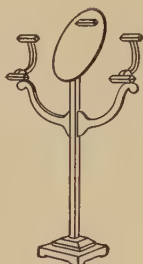


FIG. 29

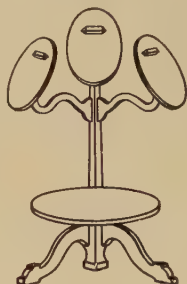


FIG. 30

Fixture 30W (Fig. 30) is a combination table and shoe stand. Shoes may be placed in a slanting position on the triple-oval stand, and on the oval table top may be shown shoes, boxes of hosiery, or any articles of merchandise that may be displayed with shoes. This style of fixture is made in heights ranging from 30 to 40 inches.

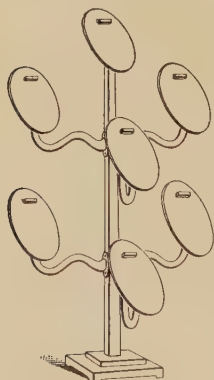


FIG. 31

Fixture 31W (Fig. 31) is a shoe stand on which may be displayed seven shoes. The base is 10 inches square and the standard is $1\frac{1}{4}$ inches, tapering to 1 inch. The oval tops are 6 in. $\times$ 10 in., and the entire height of the fixture is 36 inches.



FIG. 32

Fixture 32W (Fig. 32) is a flat-top stand suitable for showing shoes and haberdashery of all kinds. Such stands have a 6-inch base and two sizes of

tops—3 in. $\times$ 6 in. and 5 in. $\times$ 10 in.

Fixture 33W (Fig. 33) is a shoe stand, through the diamond of which hosiery can be displayed. Neckwear, gloves, and handkerchiefs may also be shown to advantage on this style of stand. It is made with a 6-inch base and in heights ranging from 10 to 24 inches.



FIG. 33

Fixture 34W (Fig. 34) is an individual shoe stand suitable for floor or glass-shelf displays. In the style of stand shown at the left, the heel of the shoe is placed over the cross-top and the toe is allowed to rest on the floor or a glass shelf. In the other style, the heel rests across the top and the toe rests on the crosspiece below, holding the shoe at a 45-degree angle.



FIG. 34

Fixture 35W (Fig. 35) is a haberdashery stand fitted with seven slanting tops, similar to fixture 31W. This is a very useful stand for showing boxed goods, such as hosiery, collars, neckwear, gloves, and suspenders. Merchandise may also be taken out of the boxes and displayed to good advantage on these slanting tops. The dimensions of this fixture are the same as those of fixture 31W.

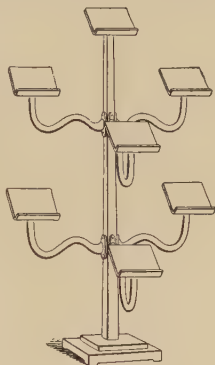


FIG. 35

Fixture 36W (Fig. 36) is a shoe display stand that will be found useful in showing other articles, such as neckwear, gloves, handkerchiefs, suspenders, belts, etc. This style of stand is made in heights of 12 to 20 inches. The standard and arms are $1\frac{1}{2}$ inches square and are fitted with U-shaped shoe rests.

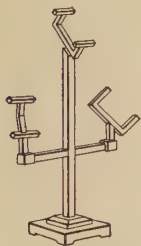


FIG. 36.



FIG. 37

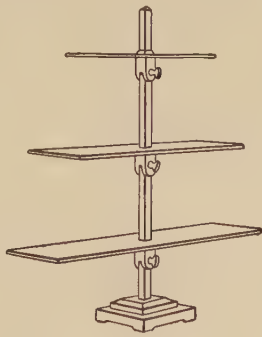


FIG. 38

Fixture 37W (Fig. 37) is a stand on which may be displayed shoes, furnishings, clothing, or millinery. A stand of this kind is often used to give height to a display. It is

made in heights of 14 to 30 inches and is finished in oak, mahogany, and Mission.

Fixture 38W (Fig. 38) is a triple-shelf stand. It is made either with stationary shelves or with hinged joints, as shown, that will allow the shelves to be tilted. Merchandise of many kinds can be displayed on this style of fixture.

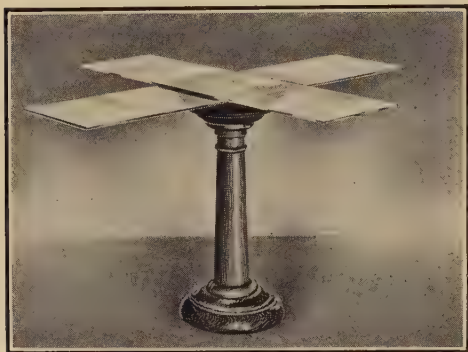


FIG. 39

GLASS SHELVES

3. Strictly speaking, glass shelves cannot be classed under wooden fixtures, but as wooden pedestals are generally used with them, a few examples will be considered here. Such fixtures are as important as any of the stands already considered; in fact, glass shelves will be found almost indispensable to the window trimmer, as they can be used to good advantage in showing all classes of merchandise.

Glass shelves cut from heavy plate glass will sustain considerable weight, and unless jarred they are not easily broken when in use. The glass for shelves

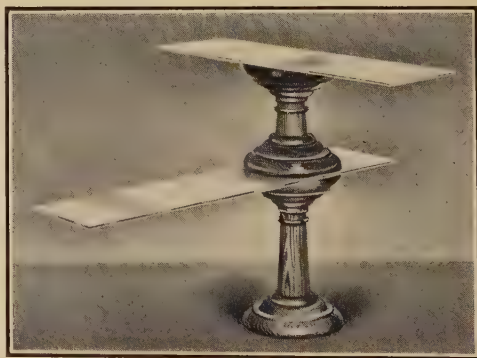


FIG. 40

is generally cut in lengths of 6, 12, 18, 24, 30, 36, and 40 inches, and in widths of any even number of inches from 4 to 20. Glass shelves are also made square, round, or oval, in sizes ranging from 6 in. $\times$ 6 in. to 30 in. $\times$ 30 in.

4. In Fig. 39 (fixtute 39G) are shown two 12"×30" plate-glass shelves crossed and placed on a 30-inch pedestal. Usually, however, only one shelf is used on a stand.

In Fig. 40 (fixtute 40G) is shown how two glass shelves and two pedestals may be used together. In this case, a 30-inch shelf is placed on an 18-inch pedestal, and resting on top of the shelf is a 12-inch pedestal and a 10"×20" shelf. It is not advisable to place glass shelves off the center to such a degree as shown in the figure, except for the display of extremely light-weight articles.

FURNITURE AS FIXTURES

5. Frequently, on account of not having enough regular stands or the desire to add an artistic tone to a display,

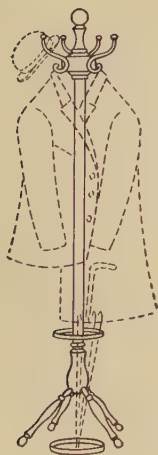


FIG. 41

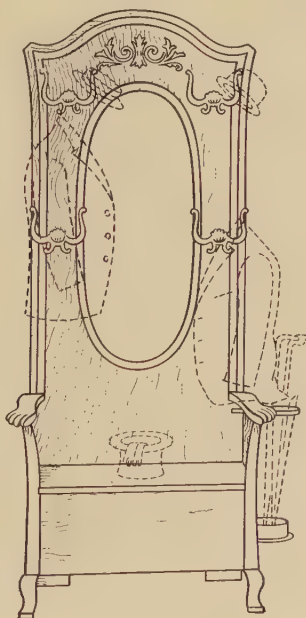


FIG. 42

furniture is utilized as display fixtures. Very good results can be obtained if care is taken to select furniture that will harmonize with the goods to be exhibited.

Pedestals, chairs, or tabourets will be found useful for showing clothing, shoes, or men's hats. Another use for chairs and pedestals is in displays of upholstery goods. Such goods are also shown to good advantage if artistically draped over fancy library tables, costumers, or brass beds. A brass bed will also be found appropriate for showing blankets, comfortables, or counterpanes; its brightness will add considerable life to the display. If the show window is of ample size, a full bedroom suite is often used in connection with a display of such merchandise as muslin underwear, men's furnishings, or upholstery goods, while dining-room furniture never fails to add to the attractiveness of a linen display, especially at Thanksgiving time.



FIG. 43

6. In Fig. 41 (fixture 41W) is shown a costumer, or clothes tree, and in Fig. 42 (fixture 42W), a hall tree. Such pieces of furniture are suitable for displays in which men's hats and clothing are to be exhibited.

An oval-top mahogany library table is shown in Fig. 43 (fixture 43W). A table of this kind will be found excellent in giving height to a display. On top of it can be shown units of haberdashery or clothing; or, if an artistic effect is desired, a large basket of artificial flowers with one or more women's hats may be placed on the table top.

Many examples in which furniture is made to take the place of display fixtures will be given in other Sections.

DISPLAY DIVIDERS

7. A **display divider** is a portable screen used in show windows to make a well-defined division between two distinct classes of merchandise or to confine each line of goods in a separate compartment. As a rule, display dividers are constructed of wood, but sometimes they are made of mirrors. They are usually placed at right angles to the background.

8. Wooden display dividers are constructed of thin material so as to be as light in weight as possible, and are generally paneled and finished to conform to, or match, the background of the show window. They are made in an endless variety of shapes and sizes, and are usually equipped with casters, so that they may be easily moved from place to place. Dividers intended for use on inlaid floors should be fitted with rubber-tired casters, or the base should be covered with felt, so as not to scratch or mar the finish of the floor.

9. A common style of wooden display divider is shown in Fig. 44 (fixture 44W). This fixture has a high back and a low front connected by a graceful curve.

Another style of divider extensively used has a square top and a diamond-lattice screen. Some trimmers prefer the lattice divider because it may also be used as a display fixture. Very pleasing effects can often be obtained by draping neck-

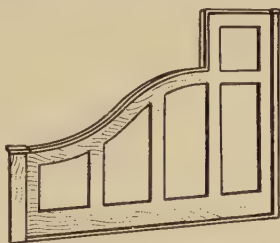


FIG. 44

wear, gloves, etc. through the openings of such fixtures. When used as a fixture, however, a diamond-lattice screen should be placed crosswise at the back of the show window.

In Fig. 45 is shown a large display window in which two wooden display dividers are used. These dividers are paneled and finished to match the paneled background. Attention is called to the graceful curves of these dividers. As they are low in front, they permit a clear view of all the goods on exhibit and still separate each line; and, in this way, more prominence is given to each class of merchandise than would be possible if no dividers were used. By using dividers in the manner shown in the illustration, a window may always be made to present a fresh, clean, neat, inviting appearance. New goods can be shown almost as soon as they are received, and the interest of the public kept alive by continual changes.



FIG. 45

10. Although display dividing screens are very useful in making well-defined divisions between two or three classes of merchandise, or for widening or contracting display space, care must be taken to space them correctly. It is a common fault of window dressers to contract the space too much, very often allowing only 3 feet between each divider. This space, especially if a show window is not over 3 or 4 feet deep, is not sufficient for a display. It is not advisable to use more than two dividers in a 12-foot window.

11. Mirror display dividers are preferable to wooden dividers if window space is limited. Such dividers are made by placing two mirrors back to back and fastening them together by means of a light-metal frame or a wooden frame. Sometimes, if the mirrors have a beveled edge, they are held together with clamps. A piece of felt or sheets of cotton should be placed between the two mirrors. An advantage of mirror dividers over wooden dividers is that they require less space; besides, the reflection of the mirrors makes the space appear larger than it really is.

FIXTURES MADE BY TRIMMERS

STANDS MADE OF WOOD

12. The most successful window trimmers are those who are able to design and make their own fixtures in cases of emergency or when there is a scarcity of regular display stands. Of course, as has been shown, there is now an endless variety of factory-made fixtures, nevertheless it is not many years since window trimmers were compelled to design their own fixtures and make them from barrel hoops and strips of wood of various sizes. Some trimmers are able to make display stands that answer their purpose better than stands that can be purchased from fixture manufacturers. In fact, many manufacturers depend on trimmers for new designs or ideas. It must not be inferred from these remarks

that factory-made fixtures are to be disregarded. The object, rather, is to bring out the fact that the ingenious window trimmer can make fixtures to meet his requirements when necessary.

In the following pages will be found suggestions relative to the construction of stands suitable for a variety of purposes. These stands are similar to those which can be purchased, and by observing carefully how they are made any beginner should be able to construct them.

13. Materials for Stands.—In constructing stands for draping yard goods, such as silks, dress goods, wash goods, shirtings, etc., soft wood should be used so that the pins employed in draping may be easily driven into them. For small stands that will be exposed to view in a window display, for example, stands used to exhibit men's or women's furnishings, care should be taken to select well-seasoned lumber. Such lumber sawed and dressed to any thickness can be obtained from almost any reliable wood-working mill or lumber dealer. By *dressed lumber* is meant lumber that is planed smooth, ready for use. The sizes of material best adapted for making small stands are $\frac{3}{8}$, $\frac{7}{8}$, $1\frac{1}{4}$, and $1\frac{7}{8}$ inches square. Such material may be obtained in 8-, 10-, 12-, or 14-foot lengths. One 12-foot board cut into small pieces should be sufficient for several small display stands.

For making substantial stands, mahogany, cherry, or quarter-sawed oak should be used. Stands of such material will look well if care is taken in their construction and they are given a good finish. The difference in cost between the better grades of wood just mentioned and the less expensive woods, such as whitewood, chestnut, and ash, is very slight, as only a small quantity is required to make a stand.

14. Tools and Accessories.—To insure perfectly fitted joints in a fixture, each strip or block of wood that is to be used should be cut true and to accurate measurement. For this purpose, it will be necessary to have a miter-box, a fine-toothed stiff-back saw, such as is used by cabinetmakers, and a sharp chisel. For boring holes, a brace and several sizes

of bits will be needed. Besides the preceding tools, there will be required a hammer, a screwdriver, a small plane for smoothing off untrue joints and rough surfaces, and several brushes for applying the finish to the fixture. There should also be on hand in the workroom a supply of sandpaper, glue, finishing nails, screws, wood stain, varnish, and finishing wax. Either cold or hot fish glue can be employed in fixture making, hot glue being preferable.

15. The method of placing a strip of wood or a piece of molding in a miter-box and the manner in which the saw should be held are illustrated in Fig. 46. Miter-boxes are very convenient for cutting strips of wood or molding straight or to any angle.

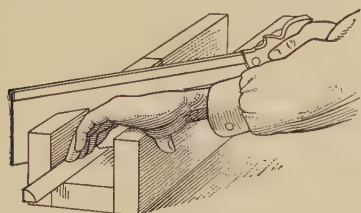


FIG. 46

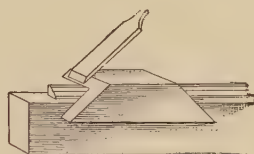


FIG. 47

The way in which a chisel may be used in cutting small molding is shown in Fig. 47. A piece of molding is placed on top of a plank and on top of the molding is placed a 45-degree-angle movable piece. The chisel is slid over the edge of the movable piece and thus cuts the molding to an angle of 45 degrees.

16. Joints.—In Fig. 48 are illustrated three methods of joining two or more pieces of wood.

At *a* is shown what is known as a **butt joint**, which is formed by simply butting two pieces of wood together. Joints of this kind are held together with glue and finishing nails, screws, or wooden dowels, the latter being preferable. In order to make a fixture top of the style shown at *a*, four pieces of wood are cut to exactly the same length and then butted together in the manner shown. Another style of

fixture top in which butt joints are used is shown at *d*. It consists of a crosspiece fastened to an upright, which in turn is fastened to an arm.

At *b* is shown a **shoulder joint**. In this style of joint the ends of the wood to be joined are notched in the manner shown in the illustration. Shoulder joints are fastened together in the same way as butt joints.

At *c* is shown a **tongued-and-grooved joint**, which is considered to be the strongest of the three. In the end of one piece of wood is cut a groove, and in the end of another piece is cut a tongue that will fit the groove. A joint thus formed is held together by means of a nail or a wooden pin and some glue.

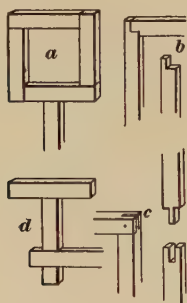


FIG. 48

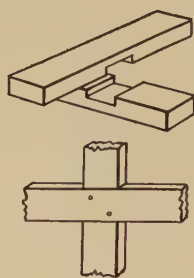


FIG. 49

In Fig. 49 is shown a **grooved joint**, which is made by notching out two pieces of wood so that they will make a tight fit. This style of joint is frequently used when it is desired to attach cross-arms to the standard of a fixture.

17. Bases.—The simplest and least expensive base for a stand is one made of a single thickness of $\frac{7}{8}$ - or $1\frac{1}{4}$ -inch lumber. A base of this kind is usually made square, and the standard is fastened to it by means of glue and a screw or a dowel pin, which is inserted from underneath the base.

18. In Fig. 50 is shown what is called a **built-up base**. This style of base may be made of two or more thicknesses of cross-grained material. The method of construction is simple.

As shown at *a*, a square hole the size of the standard that is to be used is cut in one block. This block is placed on another block, as *b*, so that the grain of each will be in opposite directions. The block *b* can be the same size as the block *a* or larger, as shown at *c*. These two pieces of wood are then fastened together with glue and screws inserted from underneath the base. When finished, the base will have a step-like appearance, as shown at *d*, provided one block is smaller than the other. A base of this kind is very substantial, and

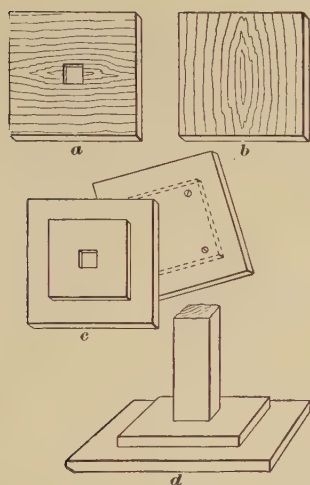


FIG. 50

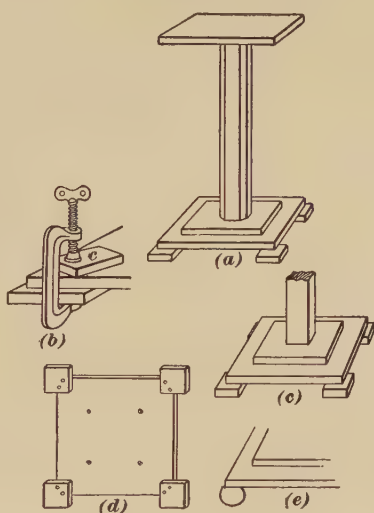


FIG. 51

as the blocks are put together across the grain, there is no danger of warping or splitting.

19. A built-up base may be greatly improved in appearance if either square blocks of wood, as shown in Fig. 51 (*a*) and (*c*), or wooden balls, as shown in (*e*), are attached to each corner, so as to form feet. The small blocks are fastened to a base with glue, being held in place until the glue sets by means of clamps, as shown in (*b*). In using a clamp, a small block of wood *c* is placed between the clamp and the base so that the surface of the base will not be marred when the clamp is screwed tight. In addition to the glue, it is advi-

sable to use screws or small nails, which may be placed as shown in (d). The wooden balls are fastened to a base with $\frac{1}{4}$ -inch dowels, or wooden pegs, and glue.

20. Examples of Non-Adjustable Stands.—A non-adjustable haberdashery stand that may be easily constructed by the window trimmer is shown in Fig. 52 (fixture 52W). The base of this fixture, which is a simple built-up one, is 10 inches square, and the uprights and crosspieces are made of $\frac{7}{8}$ -inch square material. A 5"×8" picture frame with glass is placed between two uprights. In this frame is an illustration showing the method of tying a four-in-hand tie, the

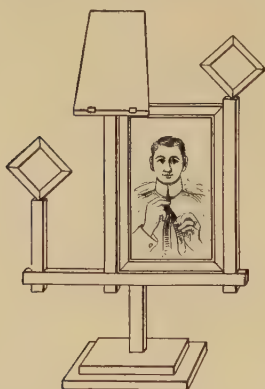


FIG. 52

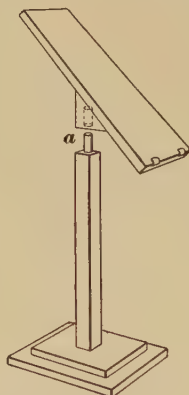


FIG. 53

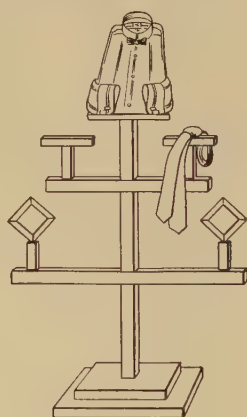


FIG. 54

which is very appropriate for a haberdashery stand. The frame, however, may be used to show other appropriate pictures, show-cards, or advertisements. At the top of the central upright is a shirt easel, which is made of $\frac{1}{2}$ -inch material. The easel is 15 inches long and is made tapering, the bottom being 8 inches wide and the top 6 inches. The open diamonds are made of $\frac{1}{2}$ -inch square material. The joints of these diamonds can easily be made in a miter-box; the other joints are simple butt joints. Dowel pins and glue are used to fasten the fixture together.

21. In Fig. 53 (fixture 53W) is shown a non-adjustable individual shirt stand. The shirt easel of this style of stand

is attached to the standard by means of a wooden peg, or dowel, *a*, which permits it to be turned in any direction or to be removed, so that a flat top or any other style of top may be put on the standard.

22. Fig. 54 (fixture 54W) illustrates another style of non-adjustable haberdashery stand that may be easily made. The bottom board of the built-up base is 12 inches square; the standard, which is made of $1\frac{1}{4}$ -inch square material, is 30 inches high; and the top crosspiece is 15 inches long and the bottom one 20 inches. The crosspieces are attached to the standard by means of a grooved joint. The other joints in this fixture are simple butt joints.

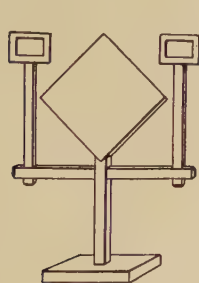


FIG. 55



FIG. 56

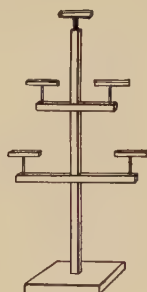


FIG. 57

23. In Fig. 55 (fixture 55W) is shown a non-adjustable haberdashery stand especially adapted for showing negligee shirts, which are opened up and the bosom pulled flat over the diamond. This stand may be put together with either grooved or butt joints. The base is 10 inches square, and the shirt easel, or diamond, is 14 inches square. The cross-rod and standard are made of $\frac{7}{8}$ -inch square material.

24. Fig. 56 (fixture 56W) shows two simple non-adjustable stands on which may be displayed small articles of furnishings. Such stands are usually made of $\frac{7}{8}$ -inch square material. They may be made in several heights, from 10 to 20 inches, with square bases of the proper size for the height. The cross-arms may also be made in various lengths to meet requirements.

25. Fig. 57 (fixtute 57W) illustrates a 30-inch non-adjustable haberdashery stand that will be found very useful. On the ends of the cross-arms and at the top of the standard are attachments that can be turned in any direction, horizontally, to meet the requirements of the goods to be displayed. The uprights on which these attachments turn are simply $\frac{1}{2}$ -inch dowels that are securely fastened to the cross-arms and the standard.

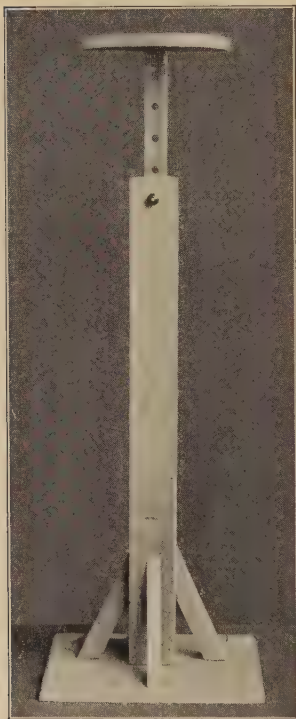


FIG. 58.

ard at various heights. The strips of wood used for the standard should be cut in a miter-box, to insure accuracy. The standard is fastened to the base, which is usually about 12 inches square, by means of screws and is braced in the manner shown in Fig. 58.

26. Examples of Adjustable Stands.—In Fig. 58 (fixtute 58W) is illustrated an adjustable yard-goods stand that will be found easy to make. It consists of a base and an adjustable standard on which may be placed various styles of tops. This style of stand is usually made in heights of 2 to 4 feet. The standard, as shown in Fig. 59, consists of four pieces of $2\frac{1}{2}'' \times \frac{7}{8}''$ material *a* of suitable lengths glued and screwed together so as to form a square-shaped center in which a telescoping piece *b*, $1\frac{1}{4}$ inches square, will slide. This telescoping standard has several $\frac{1}{2}$ -inch holes into which a peg may be inserted in order to hold this part of the stand-

27. Many styles of tops, as well as the method of fastening them to the yard-goods stand just mentioned, are shown

in Fig. 60. On such tops may be draped yard goods of all kinds. The top shown at *a* is an ordinary wooden chopping bowl. It is placed in an inverted position and is attached to the standard by means of a screw. At *b* is shown a quarter circle top, which is made by cutting a child's rolling hoop into four pieces. The quarter circle is held to the crosspiece of the standard by means of an iron clamp similar to that shown at *i*. Such clamps will be found useful for many purposes. At *c* is shown an 8"×14" flat top placed on the standard at an angle of 45 degrees. It may be well to mention here that the movable part of the standard is cut square at one end, as at *l*, and at an angle of 45 degrees at the other, as at *m*; thus, a top can easily be placed either in a flat or in

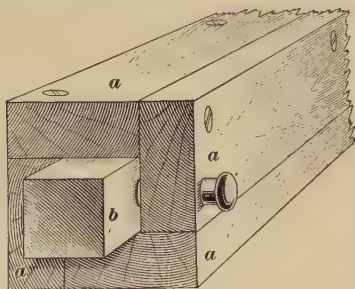


FIG. 59

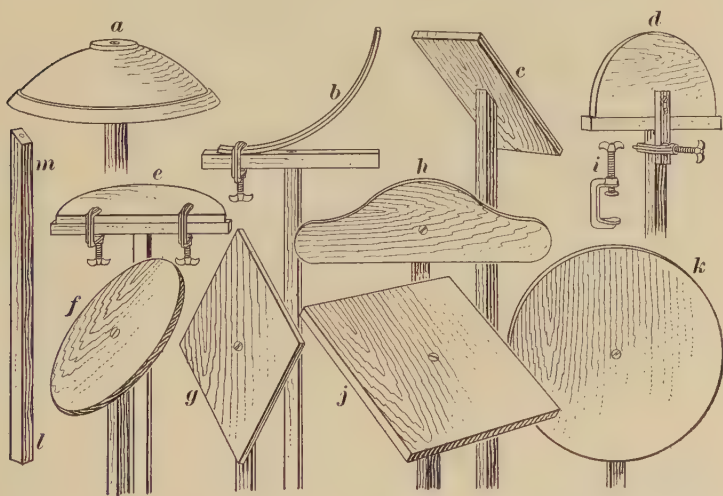


FIG. 60

a slanting position by reversing the standard. At *d* and *e* are shown two methods of fastening a 14-inch half-circle top.

A 10"×18" oval top is shown at *f*; a 10"×20" diamond-shaped top, at *g*; a top with a 22-inch spread, at *h*; an 18-inch square top, at *j*; and an 18-inch circle top, at *k*. The tops *f*, *g*, *h*, *j*, and *k* are fastened to the standard by means of a screw.

Fig. 61 (fixture 61W) shows an excellent fixture top for displaying wallpaper. On top of the movable part of a standard is fastened a semicircular top, as shown, and on



FIG. 61

this are nailed two small strips of wood that serve to hold the roll of paper.

28. Fig. 62 (fixture 62W) shows an inexpensive adjustable stand. The two pieces of material that form the standard are held together by two pieces of flat metal. One piece of metal is fastened to the stationary part of the standard, as shown at *a*, being bent around the movable part, and the

other piece is fastened to the movable part and bent around the stationary part. As in the fixture shown in Fig. 58, the telescoping part of the standard has holes in which a plug may be inserted to hold it at any desired height. The tops shown in Figs. 60 and 61 may also be used on this style of fixture.

BAMBOO FIXTURES

29. During the hot part of the summer season, when heavy plush curtains and mirrored backgrounds present a stuffy appearance, stands and backgrounds made of **bamboo** will be found very appropriate. The bamboo background will create a feeling of coolness and will be found particularly desirable for displays of summer clothing, shoes, haberdashery, straw hats, millinery, etc. An ordinary Japanese screen makes a very simple background for such displays; or, a temporary background can be made by building in rough frame panels and covering them with Japanese matting. Frames may be formed by nailing split bamboo around the edge of these panels in suitable designs. The floors of display windows in which such backgrounds and bamboo fixtures are used should be covered with Japanese matting.

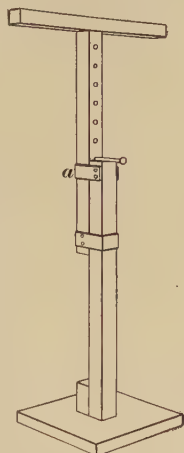


FIG. 62

30. Methods of Working Bamboo.—Bamboo may be easily split through the center, provided a sharp, thin knife is used. The manner in which the knife is held, as well as the way in which the bamboo splits, is shown at *a*, Fig. 63. For framework, or panelwork, it is best to split each piece of bamboo, so that small nails may be used to fasten it around the matting-covered frames. Nails should not be *driven* into the bamboo, however. The best plan is to bore a hole for each nail either with a push drill or an awl. If this is done, the bamboo will not be liable to split where nailed.

The method of joining two pieces of bamboo, as well as that of fastening them to a fixture standard, is also shown in Fig. 63. In the ends of the pieces of bamboo that are to be joined plugs are inserted, as shown at *b*, glue being used to hold them securely. After the glue has dried, a small hole is bored into each plug, as shown at *c*. A wooden peg, or dowel, *d* is then inserted in the holes and the two pieces

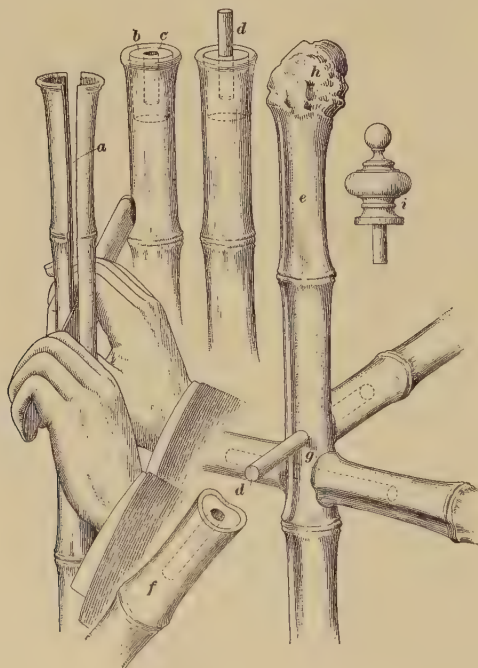


FIG. 63

are firmly secured by means of glue. If pieces are to be attached to a standard *e*, so as to form cross-arms, the dowel used should be long enough to go through the standard and still fit in the pieces. The holes in the standard through which the dowels pass should be bored with a sharp bit and should be located one above the other, as shown at *g*. Also, to make sure that the arms will fit snugly against the standard when slid on the pin *d*, they should be cut as shown at *f*.

In order to have a top that will look well, it is advisable to select a piece of bamboo with a root or a knot on the end, as shown at *h*. Sometimes an ornament turned from wood, as shown at *i*, will make a fine top. Such ornaments can be fastened to the bamboo either with wooden dowels and glue, or by means of double-ended screws, such as are used to fasten knobs on curtain poles.

31. Examples of Bamboo Stands.—Following will be found illustrations and descriptions of many useful bamboo stands that are not difficult to construct. The step-like bases shown in several of the illustrations are made by nailing and glueing together four blocks of wood, 2, 4, 6, and 8 inches square. A hole is bored in the center of the base to receive the bamboo standard, which is fastened in place with a plug of wood. For reference purposes, bamboo fixtures will be given the letter B.

Fixture 64B (Fig. 64) is a stand that is excellent for displaying haberdashery, but is especially adapted for showing hats.

It has a 30-inch standard and a 14-inch and a 22-inch cross-rod. On the ends of the cross-rods are attach-

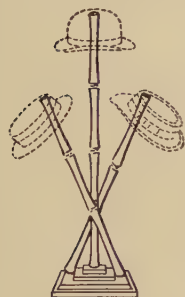


FIG. 65

ments on which hats or caps may be placed.

Fixture 65B (Fig. 65) is a hat stand made especially for showing three hats. Artificial flowers and feathers, as well as haberdashery, may also be shown to good advantage on such a fix-

ture. To make this style of fixture, two 20-inch pieces and one 36-inch piece of bamboo are fastened together in tripod fashion.

Fixture 66B (Fig. 66) is a simple hat stand. The standard is 20 inches high, and the arms extend 8 inches. They have an 8-inch hat holder.

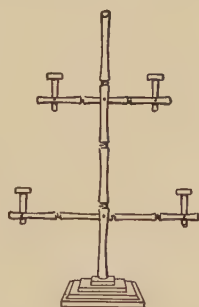


FIG. 64.

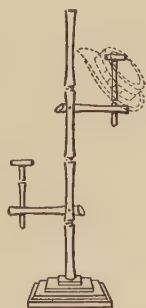


FIG. 66



FIG. 67

Fixture 67B (Fig. 67) is an individual hat stand. It should be made in heights of 12, 18, 24, and 30 inches. A 2-inch block of wood, to serve as a hat holder, is fastened to the top of the standard.

Fixture 68B (Fig. 68) is a pedestal stand. Such stands may be made with either square or round tops, of $\frac{7}{8}$ -inch material, and with diameters of 10, 15, or 20 inches. The heights may vary from 15 to 20 inches. A glass or a wooden shelf can be used on the cross-braces, as shown.

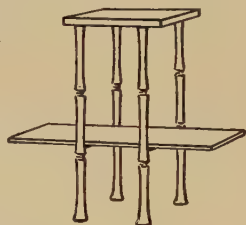


FIG. 68

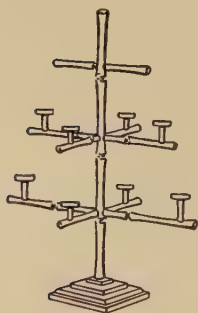


FIG. 69

Fixture 69B (Fig. 69) is a haberdashery stand. This stand is of ample size and will hold nine hats or a large quantity of furnishings. The lower arms have a spread of 24 inches, and the upper ones a spread of 18 inches. The standard is 36 inches long, and the single cross-rod 10 inches.

Fixture 70B (Fig. 70) is a tripod stand made to hold about a dozen hats or caps, as well as a large quantity of various kinds of merchandise. An excellent centerpiece for a millinery display can be made by using a stand of this kind. For example, a large basket of natural or artificial flowers

can be suspended from the center of the stand with a wide ribbon, or vines and flowers may be intertwined around the bamboo legs.



FIG. 70

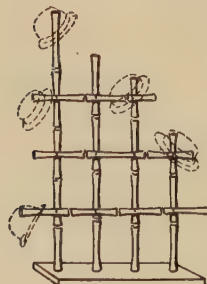


FIG. 71

Fixture 71B (Fig. 71) is what is commonly known as a display divider. Stands for displaying hats, furnishings, etc. may also be made in the same design. Bamboo display dividers are usually 4 feet at the

highest part and 2 feet at the lowest part. The length, of course, is governed by the depth of the display window. If made expressly for display purposes, the highest part should not be over 2 or 3 feet and the length of the base not more than 2 feet. For adding height to a display, fixtures of this style may be placed on top of a pedestal.

Fixture 72B (Fig. 72) is a tripod flower stand fitted with three perpendicular 8-inch open-ended pieces of bamboo.



FIG. 72

The tops of the pieces that make up the tripod are cut so that a hole is left in the bamboo into which flowers may be inserted.

Fixture 73B (Fig. 73) is a flower stand made on a 10" × 18" base with 4-inch legs.

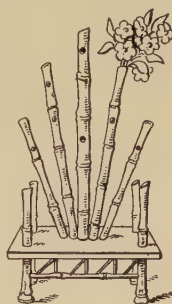


FIG. 73

Flowers can be placed in the tops of these fan-like bamboo strips, as well as through the holes bored in various parts of the bamboo.

PEDESTALS, BOX STANDS, AND PLATFORMS

32. Pedestals may be classed as fixtures, because they are frequently used for display purposes. They are usually very elaborate in style and finish, and range in height from 10 to 40 inches. The 10-, 18-, 24-, and 30-inch heights are the ones in common use. Pedestals can be obtained from regular fixture manufacturers, and in many instances the window trimmer designs and builds his own.

33. In Figs. 74 and 75 (fixtures 74W and 75W) are shown two styles of factory-made pedestals. The one shown in Fig. 74 is very elaborate. The base is fitted with four feet, which arrangement is considered preferable to a flat base, especially where floors are slightly uneven, and the standard

is 8 inches square, with a neat molding at the top and the bottom. The pedestal shown in Fig. 75 has a plain, flat

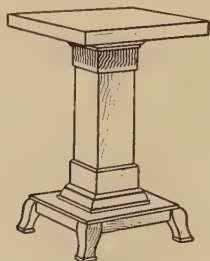


FIG. 74

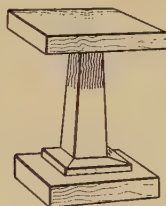
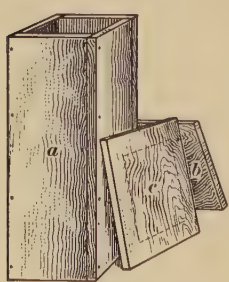


FIG. 75

base and a tapering standard. This standard, unlike the one in Fig. 75, is made of solid wood. The top of each pedestal is square.

34. Box Pedestals.—If inexpensive pedestals are desired, either of the two styles of **box pedestals** shown in Fig. 76 (fixture 76W) should meet the requirements. Such pedestals are not difficult to make. The standard *a* of the fixture shown in (a) may be from 3 to 12 inches square and from 6 to 30 inches high, depending on the use to be made of the pedestal. This standard is made of four pieces of $\frac{7}{8}$ -inch lumber, which are put together in the same manner



(a)



FIG. 76



(b)

as the standard of the yard-goods stand shown in Fig. 59. The top *b* and base *c* may be made the same size as the

standard; or, if a better support is desired, they should be made from 2 to 4 inches larger.

The pedestal shown in (b) is shapelier than the one just described. It is built of the same kind of material, but instead of being square, the standard *d*, as shown, tapers slightly. For a 30-inch pedestal, the boards that go to make up the standard should be 8 inches wide at the bottom and 6 inches wide at the top. These boards should be fastened together in the same way as those used in the standard shown in view (a).

In order to carry out some color scheme, pedestals are sometimes covered with plush, velvet, or felt. The best plan when this is to be done is to cover the standard, top, and base separately; that is, before they are nailed together. In this way, a better finish will be obtained than if the pedestal is covered when the base and top are fastened to the standard. Small gilt moldings put around the edges of a covered pedestal will add to its appearance.

Pedestals of good material, especially if well made, are frequently stained and varnished to match the woodwork of the show window.

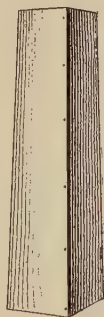


FIG. 77

35. Half-Box Stand.—In Fig. 77 (fixture 77W) is shown what is commonly known as a **half-box stand**. It consists simply of two boards fastened together at right angles. Such stands are made in various heights, from 20 to 40 inches, and are especially adapted for displaying yard goods.

36. Box Stands.—A good supply of wooden boxes in 2-inch sizes, ranging from 6 to 24 inches, will be found very convenient in many instances. Such boxes, which are called **box stands**, can be used in building temporary platforms and step fixtures; also, by placing them in a show window in an irregular manner and then covering them with plush, velvet, or flannel, as shown in the jewelry display, Fig. 78, a very pleasing effect will result. In the center of this display, at the rear, two 20-inch boxes are placed close



FIG. 18

together, and at each rear corner, forming a base for the candlesticks, is another 20-inch box. In front of these is a row of 12-inch boxes, and in the foreground are several 6-inch boxes.

Box stands arranged in the form of steps or pyramids in various parts of a show window will be found useful for displaying jewelry, silverware, crockery, or bric-à-brac. In fact, there seems to be no limit to the uses to which box stands may be put.

37. Show-Window Platforms.—Platforms are seldom built in show windows permanently because they are rarely used. If a temporary platform is needed, it may be built by placing several boxes side by side. Another way to make a platform is to place several trestles or boxes at the sides of the show window and connect them by laying on them a number of boards cleated or nailed together. Show-window platforms are usually made from 8 to 18 inches high and from one-fourth to one-half the depth of the show window.

Platforms are usually found convenient as a base to which fancy backgrounds or the uprights of temporary framework may be nailed. They are also used to give height to a display of furniture, ice boxes, stoves, or any articles that will not show to good advantage if placed directly on the floor or level with the goods in the front part of a display. Frequently, men's or women's lay figures are placed on a slight elevation in the back of a show window so that the garments on display may be seen to the best advantage by the passer-by. For individual lay figures, an ordinary washtub turned upside down will make an excellent platform for both the show window and the department in which men's or women's garments are on sale.

FINISHING OF FIXTURES

38. Finishing of Wooden Fixtures.—In order to preserve the wood of fixtures made by the trimmer and at the same time have them present a good appearance, it will be necessary to give them a finish. The fixtures may be

finished natural or in walnut, mahogany, cherry, maple, or light, golden, or dark oak. Mission, early English, Flemish, antique, and forest-green finishes are also applied. Any of the materials required for finishing fixtures can be obtained in any paint store.

In finishing a fixture, the wood should first be smoothed with fine sandpaper and then filled with a good paste filler and stained with wood stain. This treatment will bring out the grain of the wood and also give the fixture the desired color.

The natural finish is produced by giving the wood one application of paste filler, which should be well rubbed into the pores and joints of the wood, and then two light coats of furniture varnish or shellac of good quality. If an extra-smooth finish is desired, the varnish, after it has hardened thoroughly, should be rubbed with pulverized pumice and water until the surface is smooth. The fixture should then be cleaned off with water and thoroughly rubbed with a rag saturated with oil or good furniture polish.

To produce the Mission finishes, the fixtures are first stained and varnished. They are then coated with furniture wax, which, after 15 or 20 minutes, is rubbed lightly with a polishing mit or a rag so as to produce a soft finish. Furniture wax will also be found very useful to freshen up old fixtures.

39. Finishing of Bamboo Fixtures.—Bamboo fixtures made by the trimmer should be finished with two coats of shellac, varnish, or wax, which should be applied after the standard has been fastened to the wooden base. A few burnt marks, such as are noticeable on a great deal of the Japanese woodwork, will add greatly to the appearance of bamboo fixtures. These marks can be made with a red-hot poker. A design of some kind made by means of a wood-burning outfit will also be appropriate in some cases. The burning should be done before the finish is applied.

PROPERTY ROOM AND WORKSHOP

40. In all large stores, considerable space is devoted to what is known as the **property room and workshop**. This room is usually located on the top floor of the store building, near a freight elevator. It should be large enough to permit a full window display to be built and at the same time store all display fixtures, wax figures, decorating materials—such as plush, velvets, and artificial flowers—and any special or temporary frames, scrolls, or fancy backgrounds or set pieces. Against the walls should be arranged shelves and bins for decorative fabrics, racks and platforms for metal and wooden fixtures, and closets for the lay figures. If a property room has a high ceiling, a gallery in which to store wooden stands, etc. may be built at one end. In this way much of the floor space can be kept clear for other purposes. It may be well to mention here that the wax heads and hands of the lay figures should be put in tin boxes and placed on shelves over the lay figures, because they are liable to be destroyed by rats and mice. All material used in building up displays should be well taken care of, as it can very often be reused or utilized in making new designs.

41. Many trimmers lay out scrolls, arches, and decorative work on the floors of the workroom, and in some instances they mark the size and shape of the show window on the floor and in this space try different arrangements of fixtures, figures, etc. Such a plan often keeps a trimmer from making mistakes and prevents loss of time. Beginners will find it advisable to follow this plan, as it will give them an excellent idea of how to trim a real show window.

42. Fig. 79 illustrates the interior of a property room and workshop of a large department store. The scene represents the usual activity before the holidays. Arches and scrolls for interior decoration are being wired for electric



Fig. 20

lights. In the background are stored all kinds of material required for decorating purposes.

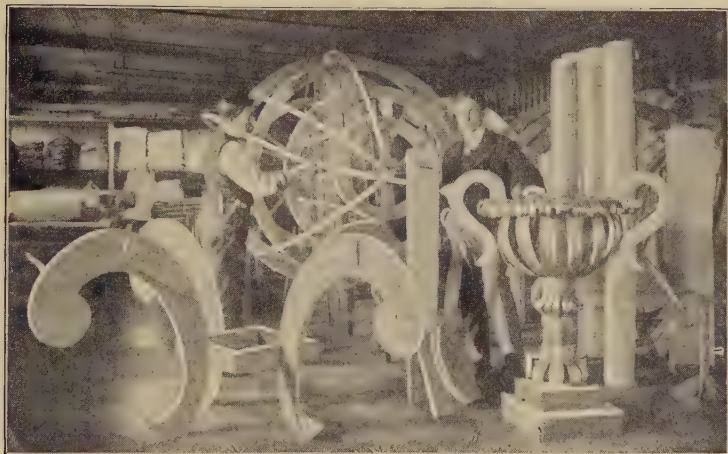


FIG. 80

A view of another workshop and property room is shown in Fig. 80. This illustration shows trimmers at work, as well as shelves for decorative fabrics, racks for fixtures, etc.

DISPLAY FORMS

DESCRIPTION AND USES

CLASSIFICATION AND IMPORTANCE

1. A **display form** is a device in the shape of the human figure on which ready-to-wear garments for men, women, and children may be exhibited or yard goods draped. Display forms are made in a variety of styles. Some consist merely of busts mounted on standards, and are either adjustable or non-adjustable; and others resemble the entire human figure—that is, they consist of a head, a body, arms and hands, and legs and feet. Again, some forms have no heads and arms, and others, for displaying women's wear, are made up of a bust and a wire skirt form.

2. Display forms may be divided into three general classes, namely, *attitude forms*, which are rigid; *jointed forms*, or those which have jointed limbs and a jointed body; and *flexible forms*, which can be bent into almost any desired position. The attitude and jointed forms are made of papier mâché covered with Jersey cloth, and the flexible forms of wire, curled hair, and heavy knitted cloth.

The heads used on display forms are usually made of wax, and the hands of wax, bisque, or wood; there are also *flexible hands* made of wire, curled hair, or cotton, and felt.

3. The display form is unquestionably of great importance in displaying ready-to-wear garments. It not only permits the articles to be shown as they will appear when in actual use, but gives the trimmer a chance to bring out all

the good points, such as fit, style, pattern, and quality of the garments offered for sale. In all branches of commercial decorating the points just mentioned are considered valuable, as the nearer a window display or an exhibit comes to showing the articles or goods as they appear in actual use, the more effective will be the display. No progressive dealer in ready-to-wear clothing would consider his window display complete if it did not contain one or more lifelike figures on which to demonstrate all the good points. It is well to bear in mind that the best results are secured by creating an interest in the fit, style, or finish of a garment on exhibition; and this can best be done by displaying the garment on the proper style of display form.

The advisability of using wax heads on display fixtures is frequently questioned. Some window dressers employed in ultrafashionable establishments claim that a form fitted with a wax head does not influence purchasers any more than a headless form. Nevertheless, it is a fact that in the majority of stores throughout the country the wax-headed display form is considered to be indispensable.

EXAMPLES OF DISPLAY FORMS

ATTITUDE FORMS

4. Attitude forms are made of heavy papier mâché covered with Jersey, cloth and are extremely rigid. As a rule, they are well proportioned and have an easy, graceful pose. Some attitude forms are fitted with a wax head and jointed arms, some have a wax head and no arms, and others have neither arms nor head. Forms that have no heads are finished with a metal cap mounted on the top of the neck.

5. Men's Attitude Forms.—In Fig. 1 (fixture 1F) is shown a full-sized man's attitude form. It is fitted with a wax head and has wooden jointed arms to which hands are attached.

A headless and armless form is shown in Fig. 2 (fixture 2F). In place of a head, a metal cap is mounted on the top of the neck. Forms of this kind are not so costly as those fitted with heads, arms, and hands, nor do they serve to show garments to such good advantage.

Another style of form is shown in Fig. 3 (fixture 3F). This form has a wax head, but no arms and hands.



FIG. 1



FIG. 2



FIG. 3

6. Women's Attitude Forms.—In Fig. 4 (fixture 4F) are shown two women's attitude forms. The one shown in (a) has a wax head and jointed arms and hands, and the one in (b) is headless and armless. The body of such forms is covered with either pink or black Jersey cloth. The forms shown in Fig. 4 are well made, and the graceful curves make them especially suitable for showing tight-fitting garments, underwear, bathing suits, short skirts, or walking costumes. Dress fabrics also may be shown to good advantage if draped over a form of this kind.

7. Children's Attitude Forms.—Attitude forms for displaying children's wear are made in practically the same

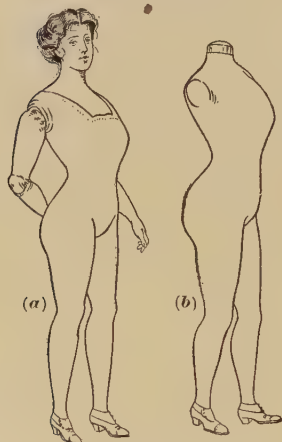


FIG. 4

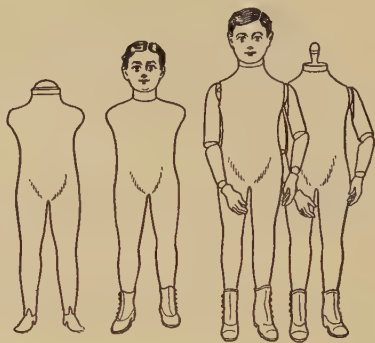


FIG. 5

manner as men and women's forms; in fact, the only difference is in the size. Several styles of children's attitude forms are



FIG. 6



FIG. 7

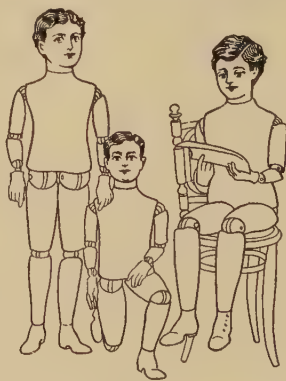


FIG. 8

shown in Fig. 5 (fixture 5F). They are made in sizes suitable for displaying garments for children from 2 to 16 years of age.

JOINTED FIGURES

8. Jointed display figures are also modeled to represent men, women, and children. The body of such forms is made of papier mâché covered with Jersey cloth, the same as the attitude forms. The joints in the limbs of such fixtures and at the points where they are attached to the body may be easily bent and turned, permitting the form to be arranged in various graceful positions. These joints are locked by means of a screw. Jointed figures are always provided with heads, arms, and hands.

In Figs. 6, 7, and 8 are shown several examples of jointed figures. The one shown in Fig. 6 (fixture 6F) is a man's form, and the one in Fig. 7 (fixture 7F) is a woman's form. Fig. 8 (fixture 8F) shows a group of children's jointed forms. These illustrations serve to bring out the flexibility of jointed display figures.

FLEXIBLE FORMS

9. Flexible forms are used for showing men, women, and children's clothing. As the name implies, they are very pliable, and can be arranged in any position that the human body can assume. The joints of such forms will remain in any position they are put until some one changes them. The construction of flexible forms is simple. They consist of a skeleton of soft, heavy wire around which is placed curled hair. This hair is covered with either black or brown heavy knitted cloth, similar to a

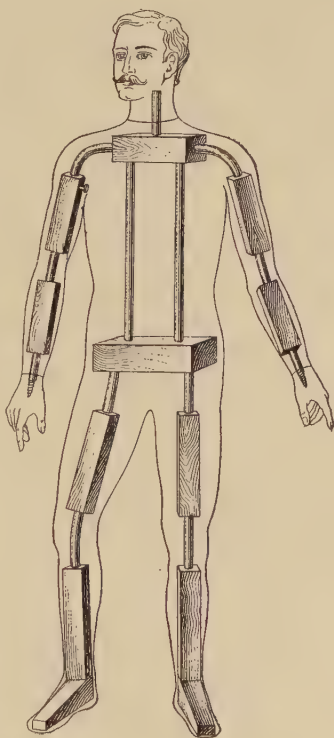


FIG. 9



FIG. 10

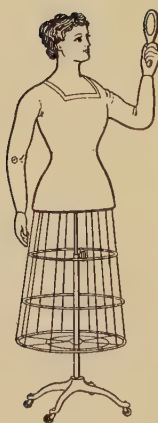


FIG. 11

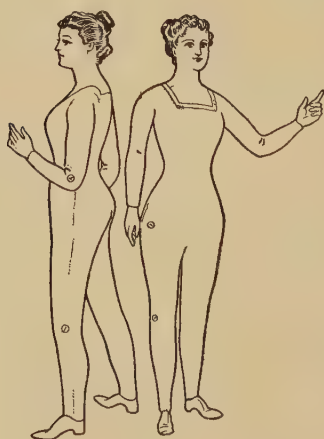


FIG. 12

union suit. Fig. 9 will serve to show how a flexible form is built up.

10. Men's Flexible Forms.—In Fig. 10 (fixture 10F) are shown two men's flexible forms. These fixtures are fitted with heavy iron feet on which ordinary shoes can be put. The easy, natural pose that can be given to these forms makes them very desirable for exhibiting men's wear.

11. Women's Flexible Forms.—Flexible forms on which to exhibit women's wear are made in two styles, as shown in Figs. 11 and 12. The form shown in Fig. 11

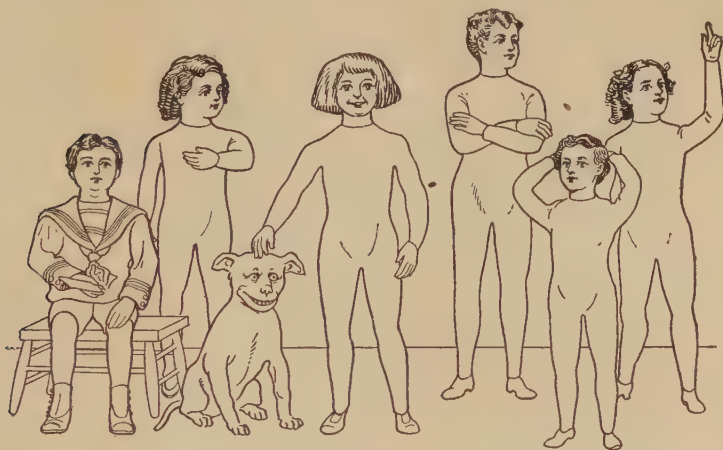


FIG. 13

(fixture 11F) consists of a flexible body and a wire skirt. This fixture is supported by an ordinary iron standard and base and is adjustable. The form shown in front and side view in Fig. 12 (fixture 12F) is a woman's full figure, being similar in construction to the men's flexible forms just described.

12. Children's Flexible Forms.—Flexible forms for showing children's wear are made up in the same manner as men and women's forms, and come in many sizes. By means of them, many striking displays can be arranged.

A group of children's forms arranged in several positions is shown in Fig. 13, and in Fig. 14 is shown a gymnasium scene.

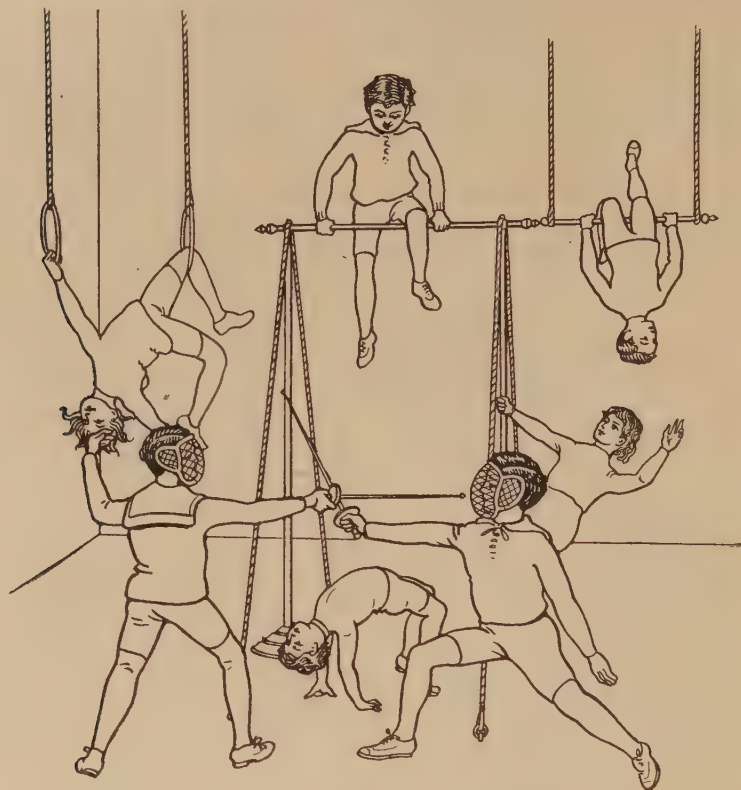


FIG. 14

This scene gives an excellent idea of the flexibility of such forms.

MISCELLANEOUS FORMS

13. Men's Bust Forms.—In Fig. 15 (fixture 15F) is shown a man's shirt form. It consists of a papier-mâché bust covered with Jersey cloth and mounted on an adjustable standard and base. A form of this kind is also useful for displaying fancy vests.

In Fig. 16 are shown two adjustable busts for exhibiting men's clothing. They are similar in construction to the form

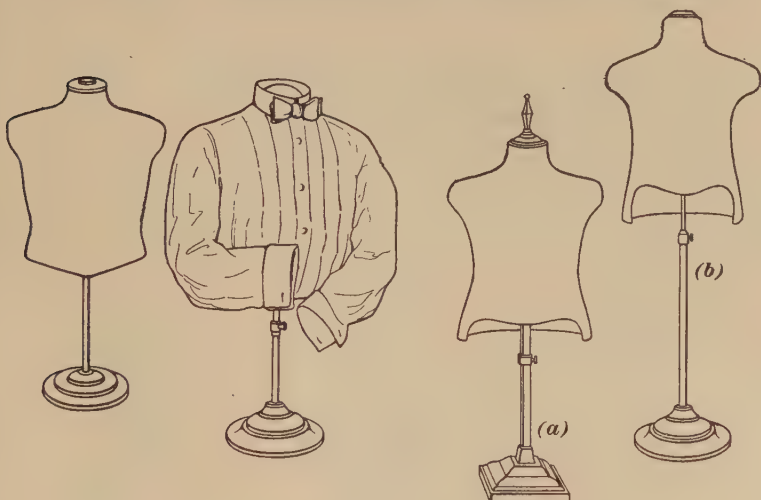


FIG. 15

FIG. 16

shown in Fig. 15. The form in view (a) is used for showing a coat and vest, and that in view (b), on account of its height, for displaying a full-dress coat or a long ulster.



FIG. 17

14. Boys' Adjustable Forms.—In Fig. 17 (fixture 17F) is shown an adjustable form for boys' wear and two methods

of utilizing it. This style of form is made of papier mâché and is mounted on a standard and base. It comes in several sizes and is used for showing overcoats and suits.

15. Women's Costume Forms.—What is known as a **costume form** is excellent for showing women's costumes of all kinds, as it is usually so well shaped and proportioned that there is no necessity of padding out with tissue paper to make a garment fit. Both the bust and the skirt of this style of fixture are made of papier mâché covered with Jersey cloth. Costume forms are also useful for showing dress fabrics, silks,

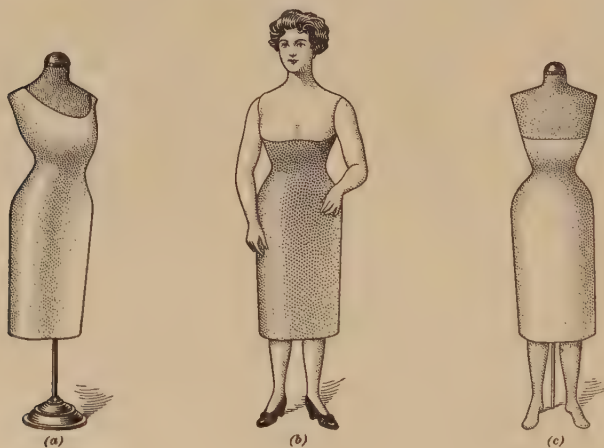


FIG. 18

and yard goods of all kinds, as the material can be draped on them in a variety of ways. Many methods of using such forms will be considered later.

16. Three costume forms are illustrated in Fig. 18 (fixture 18F). The forms shown in views (a) and (c) are without heads and arms, but the latter is fitted with feet on which regular shoes or walking boots may be placed. Walking costumes or short skirts can be displayed to advantage on this style of form. The form in view (b) has a wax head, a low bust, and full-length arms. The skirt is the same in all. The form in (a) can be raised and lowered on the standard, but

the one in (c) is stationary. Costume forms of this description are used in the show windows of establishments that deal in high-class gowns.

17. In Figs. 19 (fixture 19F) and 20 (fixture 20F) are shown two costume forms with full-length papier-mâché skirts. The one in Fig. 19 has a wax head, a low wax bust, and full-length arms jointed at the shoulder. That shown in Fig. 20 is entirely different. It has papier-mâché arms, and instead of a head it has a metal neck cap. Such forms are stationary and have no feet or base, the bottom of the skirt resting on the floor.



FIG. 19



FIG. 20

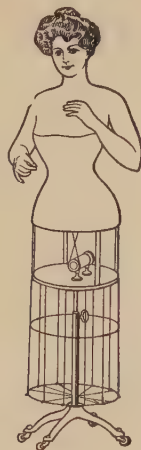


FIG. 21

18. A mechanical costume form is shown in Fig. 21 (fixture 21F). This form is equipped with a small motor that controls a mechanism that causes the eyes to blink and the breast to move, as when a person is breathing. When such figures are used, they often create the impression that the garment is displayed on a human being. There are many styles of mechanical costume forms on the market, and a show window in which they are used to display garments never fails to attract attention.

19. Women's Suit Forms With Wire Skirts.—For displaying women's suits, forms consisting of papier-mâché

busts and wire skirts are used extensively. Such forms are usually mounted on adjusting standards attached to iron bases fitted with casters, so that they can be easily moved. The wire skirts of such forms are made in many shapes, and the busts come in sizes ranging from 32 to 40 inches. Sizes 36 and 38 are used mostly for displaying garments in show windows. Several styles of suit forms are shown in Figs. 22 to 26.

20. Fig. 22 (fixture 22F) illustrates a woman's suit form equipped with a wax head, a low bust, and double-jointed wax arms. The wire skirt has a slight flare at the



FIG. 22

FIG. 23

FIG. 24

FIG. 25

FIG. 26

bottom, making it an ideal form for displaying handsome evening gowns.

Fig. 23 (fixture 23F) shows a suit form with elbow-length arms and a non-flare wire skirt. The arms for this style of form come in both wax and bisque.

Fig. 24 (fixture 24F) illustrates a form suitable for exhibiting short-skirt suits. It has a short-length wire skirt, and instead of a base with casters it has two shoe forms.

Fig. 25 (fixture 25F) shows an armless suit form with a flared wire skirt, and Fig. 26 (fixture 26F) shows a wire-skirt form that is both headless and armless.

21. Women's Waist and Jacket Forms.—To bring out their value, women's waists should always be shown on a form. Three styles of **waist forms** are illustrated in Fig. 27.

The one shown in (a) is a good device for displaying shirtwaists on the bottom of a show case or on a glass shelf. The back of this form is cut off at an angle, which allows it to rest on the floor of a case or on a shelf with the neck raised.

The form shown in (b) is attached to a base and standard, on which it may be raised or lowered. Such forms are made with or without a dip front.

The form shown in (c) is called a *shell waist form*. It has no back, being practically half of a form. It is very light in weight, and is found useful when it is desired to display waists on rods or fixtures.

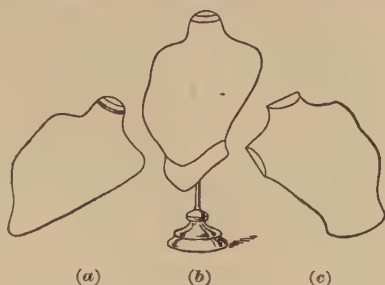


FIG. 27

22. Two styles of jacket forms are shown in Fig. 28. That in (a) is a full bust form, and that in (b) is a half form.

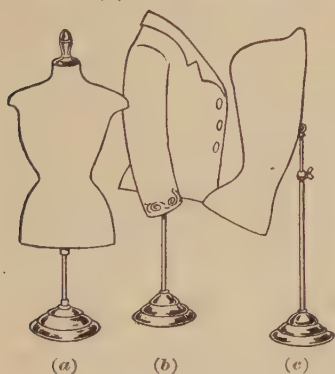


FIG. 28

This form is fastened to its standard by means of a hinge, as shown in (c), which allows it with the jacket to be tilted to almost any angle.

23. Forms For Draping Dress Goods.—For the draping of dress goods there are several styles of forms. These are generally made entirely of papier mâché and in two parts, although forms consisting of papier mâché and wire and mounted on a standard attached to an iron base are to be had. Figs. 29 and 30 (fixtures 29F and 30F) will serve to illustrate the different styles of forms.

24. In Fig. 29 are illustrated four full-size papier-mâché draping forms on any of which dress goods, silks, etc. can be

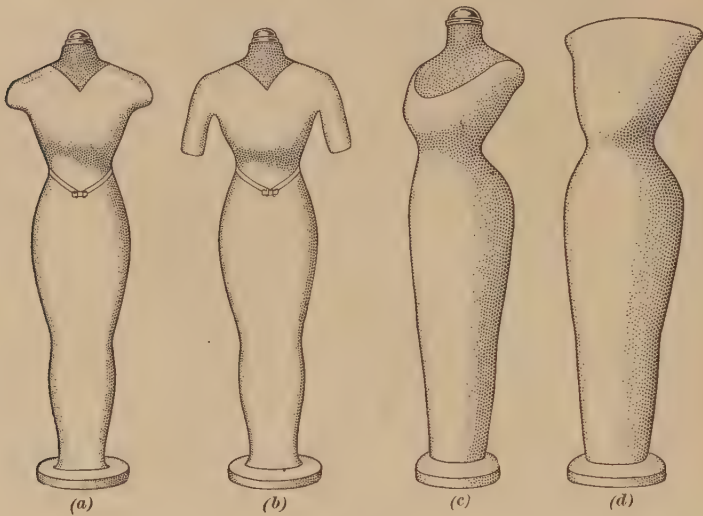


FIG. 29

draped to advantage. The one shown in (a) has no arms, the bust is high, and the neck is a metal cap; the one in (b) is the same as that in (a) except that it has half arms; the one in (c) is low bustled and armless; the one in (d) has no neck or arms.

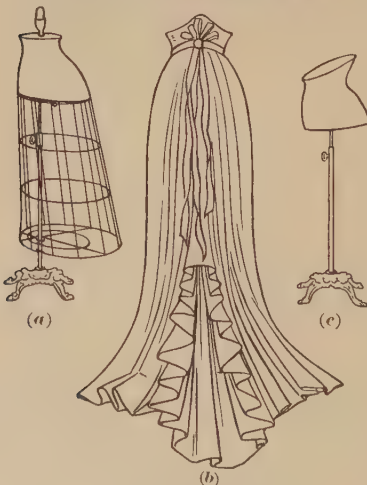


FIG. 30

25. In Fig. 30 (a) is shown a form consisting of a wire skirt mounted on a standard with a four-footed base. This form, in addition to being used for draping goods, will be found convenient for showing ready-made skirts. Before dressing a form of

this kind it is advisable to put an underskirt or a petticoat on it.

In (b) is shown one way in which the *full-front* or *full-back draping form* (c) may be draped. This form is made of papier mâché and is mounted on an adjustable standard having a four-footed base.

26. Forms of the kind shown in Fig. 29 can be had either with or without Jersey-cloth covering, those without covering being preferable. When in practical use, it is a good plan to paint such forms with a light-colored oil paint that can be cleaned with a damp cloth as occasion demands. However, for draping light-colored fabrics, some window trimmers prefer to cover the forms with cheesecloth or silesia of the same color as the material that is to be displayed. This practice is advisable if the material to be shown is thin, such as lawn, batiste, mull, India linon, organdie, grenadine, voile, and net.



FIG. 31

27. Hosiery Display Forms.—For showing men's or women's hosiery, forms made of papier mâché or of wood are used. Several styles of hosiery display forms, as well as the methods of supporting them, are illustrated in Fig. 31 (fixture 31F). Fixtures of this kind are best adapted for showing hosiery.

HEADS AND HANDS FOR DISPLAY FORMS

WAX HEADS

28. The heads used on display forms are almost without exception made of wax. In their manufacture, hot wax is poured into a mold, where it is allowed to remain until it becomes cool. After the wax is taken from the mold, all blemishes are removed and all details of expression are made by expert sculptors. When the details have been cut in the wax, glass eyes are put into place, hair is inserted into the head, the eyebrows and eyelashes are formed, and the face is painted and finished so as to make it appear lifelike. Great care is exercised in placing the eyes and shaping the mouth, because these two factors govern the expression of the face. Heads made in this way, particularly if the wax is good and human hair is used, will last indefinitely.

29. Wax heads of almost endless description can be obtained, and as the window trimmer is usually called on to select display forms he should be prepared to pick out the best heads for such forms.

The important points to be considered in choosing a wax head are the thickness and quality of the wax, the workmanship, and the kind of hair. Cheap heads as a rule are made of adulterated wax, are thinly molded, and are sculptured with little or no care. Such heads usually have pretty faces, but the hair is not real. They are apt to fade quickly, especially if exposed to the sunlight, and for this reason are not suitable for displaying beautiful garments.

The better grades of heads are made of pure wax and show that great care is taken in their manufacture. Instead of being gaudy or flashy, they possess a refined expression and complexion; and instead of imitation hair, they have lustrous human hair. Altogether, they possess qualities that go to make a face that will show off to advantage any street garment or evening gown.

The thickness of the wax used in a head can be determined by holding it up to the light or placing it over an electric bulb. If the head has been carefully cast and the wax is of good grade, but little light will be seen; on the other hand, cheap and poorly cast heads will be almost as translucent as tissue paper.

30. Another thing to be considered in selecting wax heads is the outlay that will have to be made for repairs. Well-made heads of good quality will not have to be refinished as frequently as cheap ones, because they are little affected by heat or cold. Nevertheless, care should be taken of such

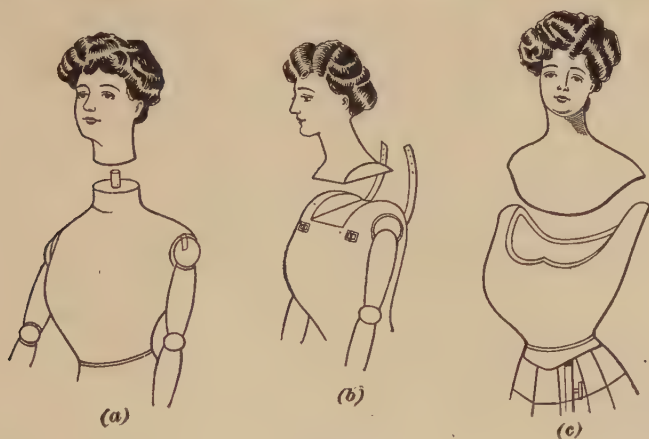


FIG. 32

heads, because *extreme* heat is liable to soften the wax and permit it to bend at the neck. Many heads, however, are braced in such a way as to prevent such mishaps. Inferior heads are much more susceptible to temperature changes. They melt easily if exposed to heat, and in the winter they are liable to crack from the cold.

31. Three methods of attaching wax heads to display forms are illustrated in Fig. 32.

In the method shown in (a) the head is placed over a $\frac{7}{8}$ -inch wooden peg fastened in the neck of the form. This is the way heads of the inexpensive type are attached to forms.

In (b) is shown a wax head with a half bust. As will be observed, the display form is cut out at the neck so that the



FIG. 33



FIG. 34



FIG. 35

half bust will rest in it; also, it is provided with straps, which, when drawn over the shoulders and buckled, will hold the head securely in place. This method of fastening a head to a form is considered to be the best, as it permits the head to be quickly removed when necessary. It is the method generally used for figures of good quality.



FIG. 36

A wax head with a full bust is shown in (c). As will be seen, the lower part of the bust is shaped so that it will rest in a groove in the papier-mâché form. A head and bust of this kind when placed on a full-height form with full-length arms (fixture 19F) will be found particularly suitable for displaying evening gowns. Very often a head with a full bust is mounted on a pedestal, as shown in Fig. 33 (fixture 33F).

32. In Fig. 34 (fixture 34F) a wax head with a half bust is shown fastened to a millinery, cloak, or waist form mounted on a pedestal. As this form has no

arms, the sleeves of a garment displayed on it will have to be stuffed with tissue paper.

In Fig. 35 (fixture 35F) is shown a pedestal figure with a wax head and a three-quarters length neck. As will be noticed, it is necessary to dress such forms rather high.

Another style of bust form with a wax head and a short neck is shown in Fig. 36 (fixture 36F). This form may be raised or lowered, being mounted on a metal adjustable standard attached to a heavy base. Fur sets, collarettes, etc. can be shown to good advantage on such bust forms.

HANDS AND ARMS FOR DISPLAY FORMS

33. The hands and arms for men, women, and children's display forms are of four kinds, namely, *wax*, *bisque*, *flexible*, and *wood*, the latter having hinged joints.

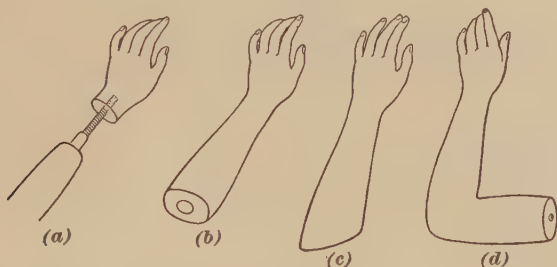


FIG. 37

34. Wax and Bisque Hands and Arms.—In Fig. 37 are shown several styles of hands and arms that can be obtained in either wax or bisque. Wax hands and arms look more natural than those made of bisque, but as they are very fragile, the bisque hands and arms are used more extensively. The hand or the arm is attached to the model by means of a wood screw, as shown in (a), which illustrates what is called a *wrist-length* hand. Hands of this style can be used only when garments with long sleeves are to be displayed. In (b) and (c) are shown two *elbow-length* arms and hands. The difference between these examples lies in the pose of the fingers and hands. A *full-length* arm and hand

is shown in (d). Full-length arms are made in several poses, being bent more or less at the elbow or the wrist.

35. Flexible Hands.—When it is necessary for the fingers of a model to grasp an object firmly, as when holding or carrying such articles as parasols, bags, books, etc., **flexible hands** will have to be used instead of wax or bisque hands. Flexible hands are made of wire, curled hair, or wood covered with pink felt. They cannot be shaped as well as wax or bisque hands, and as they have an unnatural look it is necessary to cover them with gloves when in use. They are therefore useful only on display forms dressed in street costume or in evening clothes.

36. Wooden Jointed Hands.—Wooden hands having jointed fingers are seldom used on wax figures. In fact, about the only time they are used is when absolute correctness of detail requires the showing of perfectly gloved hands—for instance, when a figure is attired in full evening dress and it is desired to fit the hands with white or pearl-gray gloves.

DRESSING, POSING, AND GROUPING OF FORMS

DRESSING

37. Women's Display Figures.—Too much care cannot be exercised when placing costumes on women's display figures that are fitted with wax heads. In order to protect the wax and the hair, a loose-fitting Canton-flannel bag should be slipped over the hair and face, as shown in Fig. 38. The arms of the form should then be turned up at the shoulder joint, so that they will assume the position shown. If these directions are followed, the garment will not disarrange the hair nor soil the face of the model when it is placed over the head.

38. Men's or Boys' Figures.—Inasmuch as the figures used in displaying clothing for men and boys are heavy and

the clothing must be carefully handled, it is always best to have the help of an assistant. If the figures are to assume an erect position, or ordinary standing attitude, the legs should be adjusted and locked into position before dressing. If they are to be shown seated, the joints at the hips and knees should be left loose, because in this case the legs do not have to support the body. The legs will remain in any position in which they are placed.

After a figure has been placed in position, the wearing apparel should receive proper attention; that is, all low spots, or places that the form does not fill out, should be padded. Cuffs, when used, should be pulled down so as to show from $\frac{1}{8}$ to $\frac{1}{2}$ inch below the coat sleeves, depending on the location of the figure in the show window. Wax heads and hands should never be placed on men's or boys' forms until they are dressed, because the wax is liable to become scratched.

POSING AND GROUPING

39. The posing of figures is a very important part of the window trimmer's work. The main object in posing is to give the figure clothed with garments an easy, lifelike pose, and with the attitude, jointed, and flexible forms that can now be obtained no difficulty should be experienced in getting the desired results. Many trimmers, however, are inclined to be careless in this respect, and instead of showing off garments to advantage fail to bring out their selling points. Sometimes, in posing forms on which expensive garments are exhibited, both the arms and the hands are allowed to hang down straight so that the forms appear like lifeless dummies. There is no excuse for such posing, because with either the jointed or the flexible figure any position that a person would

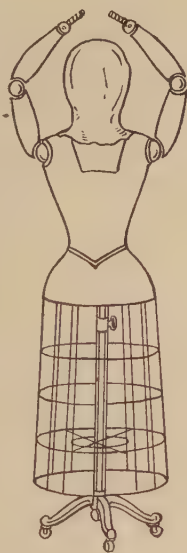


FIG. 38

be likely to assume can be imitated by bending the arm at the shoulder, the elbow, or the wrist. The sitting position is obtained by adjusting the hip, knee, and ankle joints. The joints of all figures, or forms, are made so that the arm and the legs may be turned into any desired position.

40. Common Errors in Posing.—Among the mistakes commonly made by the beginner in posing figures are the following:

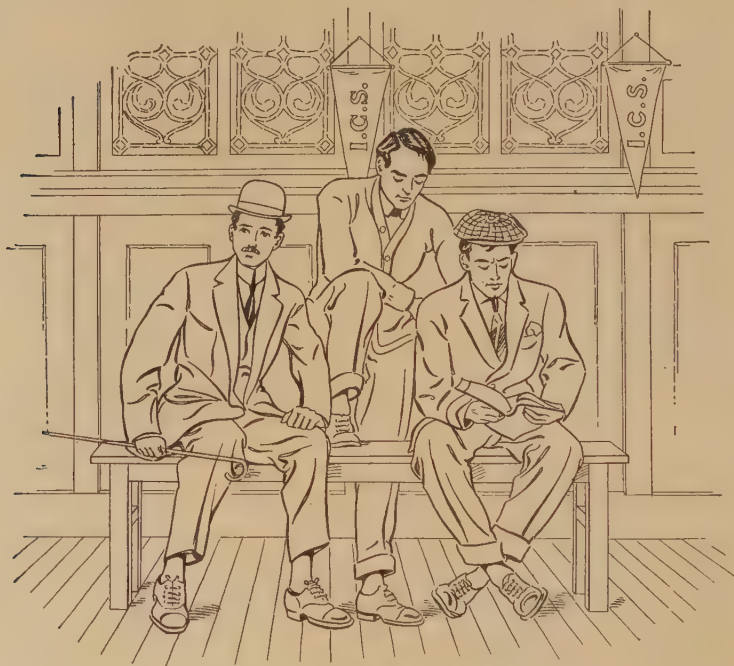


FIG. 39

1. Extending both elbows to the same height and giving them a slight crook, so that they look like part of a circle.
2. Placing both arms in a straight up-and-down position, with the hands closely pressed against the sides, making the figure look like a raw recruit on dress parade.
3. Crooking one arm at the elbow, as if inviting the observer to an arm-in-arm walk.

4. Seating the figure in an awkward manner. Usually the form from the thighs up is lying at an acute angle, as if to emphasize the fact that it is a mere dummy.

All such mistakes and many others can be avoided by using good judgment and exercising care when doing the work. The posing of wax figures must not be done hurriedly; in fact, many trimmers who take pride in getting correct



FIG. 40

effects spend more time on this branch of the work than on any other.

41. Group Posing of Men's Figures.—In arranging models in groups, care should be taken not to pose two models in the same display in exactly the same way. Both hands or both arms or legs should never be adjusted to the same angle or arranged so as to appear ungainly. The

trimmer, in all cases, should endeavor to reproduce faithfully some of the little things that are so natural for a person to do.

42. Figs. 39, 40, and 41 show three group designs that can well be imitated in making a clothing exhibit. As will be observed, the pose of the models is perfectly natural.

In Fig. 39, the simple act of reading a book, which the flexible model on the right appears to be doing, makes this



FIG. 41

group look lifelike; but this effect is brought out more forcibly by the central figure, which represents a person glancing over the reader's shoulder in order to get a squint at the book. The model holding the walking stick also makes this group seem very natural.

Holding a cigar or a pipe, in the same manner as the model at the left in Fig. 40, is another good way of obtaining animation in a display model. In arranging a group like the one

shown in this figure, a full-jointed form may be used for the model on the right and flexible forms for those on the left.



FIG. 42

For the grouping shown in Fig. 41, two flexible models are required. These forms, as shown, are posed in a very simple and natural position.

With a little thought and study on the part of the window trimmer, it will be possible to make any number of effective groupings that will add life to a clothing exhibit.



FIG. 43

43. Group Posing of Boys' Figures.—As boys' display figures can be made to assume the same poses as men's

figures, they should be grouped in practically the same manner. Care should always be taken to have them appear natural.

44. Posing Women's Models.—The remarks in regard to posing men's forms apply equally as well to the posing of



FIG. 44

women's forms. With women's models, however, the trimmer has greater opportunity to bring out lifelike effects because of the many articles that a woman is in the habit of wearing or carrying. Figs. 42 to 47 will serve to bring out various poses.

45. In Fig. 42 is shown how an evening gown may be displayed to advantage on an attitude papier-mâché form having a low wax bust and full-length wax arms. As will be observed, a fan is held in a natural position by the figure.



FIG. 45

A figure posed as gracefully as this will add greatly to a display, especially if a background of draperies is used so as to give the effect of a drawing room in which a person in an evening gown would be likely to appear.

In Fig. 43 is shown another excellent pose for a figure wearing an evening gown. In this case a full bust form is employed. As shown, the hands are brought up holding a string of beads.



FIG. 46

46. In Fig. 44 is shown a pose for an attitude form with elbow-length wax arms. This figure is attired in a street costume. The arms are bent at the elbows, the hands are brought up even with the shoulders, and an umbrella is held across the shoulders, giving a natural attitude.

In Fig. 45 is shown how a suit form can be posed to bring out the good points of a costume and a parasol or an umbrella. The form has full-jointed wooden arms with flexible hands, which, when covered with gloves, can be used to better advan-



FIG. 47

tage for purposes such as holding parasols than can bisque or wax hands. The papier-mâché tree with artificial foliage adds greatly to this display.

Fig. 46 shows a pose in which one hand of the figure holds a muff. This practice is frequently followed when the ends of fingers of wax or bisque hands become broken.

47. Grouping Women's Models.—Three groups of women's models are illustrated in Figs. 47, 48, 49, and 50.

In Fig. 47 are shown two street costumes placed on forms. Especial attention is called to the posing of these models. In



FIG. 48

the one on the right, the right arm is slightly bent at the elbow so that it hangs in a natural way and a muff is held in the hand; the left arm is held close to the side, and a purse is held in the hand. In the model on the left, the left arm is bent at the elbow so that the hand rests on the hip; a neck fur is draped from the back of the shoulder over the elbow and under the arm and the end hangs at the side.



FIG. 49

In Fig. 48 two forms are shown. The arms of the model at the right are bent at the elbows, bringing the hands into a suitable position to show off the suit. The model at the left stands in a natural manner.

Fig. 49 shows two forms with wax busts and full-length wax arms in a very natural pose. These examples should suggest to the trimmer other ideas for posing.



FIG. 50

Fig. 50 shows how forms may be posed in a striking way against a background. The illustration shows three forms posed in front of a painted background representing high gates which are partly opened and reveal a path leading to a lake on which there is a sail boat. A display of this kind always attracts attention.

CARE OF DISPLAY FORMS

REPAIRING PAPIER-MÂCHÉ FORMS

48. Although papier-mâché forms are tough and will stand a great deal of hard wear, they sometimes become broken, when the trimmer should know how to repair them.

To mend a break in the papier mâché, it will first be necessary to remove the cloth covering so as to get at the break. Then the two edges of the broken part should be covered with Le Page's or any good fish glue, which may be bought in almost any hardware or paint store; next the two glued edges are brought together and sewed fast with fine copper wire or strong string. If the papier mâché is too tough for sewing with a heavy needle, an ordinary harnessmaker's awl may be used for making the holes through the material for the insertion of the wire or the string. Next, glue or paste strips of strong muslin or heavy paper over the broken edges in a crisscross fashion. After the glue becomes dry, remove all rough spots by sandpapering and then replace the Jersey cloth covering in as neat a manner as possible.

49. Sometimes the arm of a papier-mâché form becomes loose at the shoulder. A loose arm can be fastened in place by spreading thickly on the joint, which protrudes inside of the form, a thick paste composed of glue and sawdust and allowing it to get hard. On an ordinary figure, it is simply necessary to remove the head in order to reach the armpit on the inside of the form; but if the forms have wooden pegs in the neck, it will be necessary to rip the cloth covering down the back of the figure and then, with a sharp knife, cut between the shoulders a hole that will be large enough for the hand to enter. After the repair is made, the piece of papier mâché should be replaced and secured in place by pasting a piece of muslin over it and the Jersey cloth then drawn back into place.



Fig. 51



FIG. 52

CARE OF WAX PARTS OF DISPLAY FORMS

CLEANING AND HANDLING OF WAX HEADS AND HANDS

50. Wax heads and hands are very delicate. The least scratch or finger mark will show plainly, and it cannot be removed except by thoroughly washing the entire head or hand. In handling wax heads, the bare hands should never be allowed to come into contact with the face. It is advisable always to use clean tissue-paper pads, which should be placed between the palms of the hands and the sides of the wax head, against the ears. If this method is followed, neither the face nor the hair will be harmed. Following are the steps to be taken in cleaning wax heads:

51. Washing the Hair.—The first step in cleaning a wax head is to wash the hair thoroughly with warm water and some good white soap. If a little water gets on the wax, it will do no harm unless allowed to remain there too long. After the hair has been washed and well rinsed, it should be dried thoroughly with a towel, taking care not to get it full of snarls. It should next be gathered up all around the head with a brush, as shown in Fig. 51, and then tied with a string, as shown in Fig. 52—the wax head at the right. This will keep the hair away from the face and thus not interfere with the cleaning of it.

52. Cleaning the Wax.—The second step consists in cleaning the wax itself. For this purpose, either turpentine or a solution of 2 parts of kerosene and 1 part of benzine may be used. The cleansing solution is applied by means of a bristle brush and a piece of white cheesecloth, as shown in Fig. 53. The solution should be allowed to remain on the wax only just long enough to soften the old finish; if left there too long, it will soften the wax. After all color and dirt have been removed from the face, the dirt must be removed from the eyebrows, the roots of the hair near the face, and the crevices of the ears, eyes, and mouth. For this purpose it



FIG. 53

will be necessary to use a small stiff brush and pointed pieces of wood, over which should be placed a piece of cheesecloth. Modeling sticks commonly used for this kind of work are shown in Fig. 54. Unless the face and all parts just mentioned are thoroughly clean, a new finish cannot be applied satisfactorily.

53. Applying the Finish.—The third step in cleaning a wax head consists in applying the finish; that is, in painting and powdering the face, etc. to make the head appear like new. After the wax has been wiped thoroughly dry with a piece of clean, soft cheesecloth, it should be gone over with poppy oil or a mixture consisting of 1 part of white dammar or white copal varnish and 3 parts of turpentine. The poppy oil is preferable. After allowing this coating to stand until it becomes almost dry—that is, until it is still slightly sticky—the wax is ready for the finish.



FIG. 54

The finish used for this purpose is made of 2 parts of powdered pumice and 1 part of either precipitated chalk or ordinary cornstarch with which is mixed some carmine of the best quality. The quantity of carmine to use will depend on the shade it is desired to produce. Three tints are needed for wax heads—light, medium, and dark. The powder used for the first application, which should cover the entire face, neck, and bust, should be very light. The quantity of carmine required for this powder, of course, will be just enough to make a very light pink or delicate flesh tint. The next, or medium, shade, which is used for tinting or high-lighting the ears, the nose, the chin, and the forehead, will require just a trifle more carmine than the light tint. The dark tint will require more carmine than the medium; it is used for coloring the cheeks. In mixing these powders, it is well to measure out enough of the pumice and cornstarch or chalk for the



FIG. 15

work at hand and then divide them into three equal parts. The mixing should be done in an earthen bowl or dish. Great care must be taken to rub out every little grain of carmine, because if this is not properly done, it will make the face look streaked and the entire work will have to be done over. The powder should be put in small cardboard or tin boxes with tight covers, so as to keep out all particles of dust, and labeled as shown in the figures.

54. The powder mixed up in this way is applied with a soft-hair brush about the size of a shaving brush. A camel's-hair brush, as shown in Fig. 52, is preferred for applying the finishing powders, but for removing old finish a brush with coarser bristles, as shown in Fig. 53, will do. The finishes should be worked into the wax by stippling. This is done by patting the end of the brush, which should be filled with powder, lightly over the wax, in the same manner as a powder puff is used. The face should never be stroked over with a brush, as this will scratch the wax. An extra brush, free from any tints, should be used to dust off surplus powder from the face, the ears, the eyes, and the mouth of the wax head.

55. Finishing Touches.—The next step consists in making the finishing touches; that is, painting the lips, the nose, and the eyes. Considerable care should be exercised in painting the lips, because the expression of the face depends on them to a great extent. The method of painting and shaping the lips is shown in Fig. 55. A very light tint of carmine or rose madder is used, being applied preferably with a No. 8 or a No. 10 red-sable or camel's-hair brush. The nostrils and the corners of the eyes are touched up with a lighter shade of the same kind of color as is used on the lips, a No. 5 or a No. 6 brush being used for this purpose.

56. Hair Dressing.—The final step in cleaning a wax head consists in dressing the hair. This is best done by an experienced hair dresser. Great care must be taken to prevent warm curling irons from coming in contact with the wax, because the slightest touch will ruin it.

RESTORING SUNKEN BREASTS AND BENT NECKS TO THEIR ORIGINAL SHAPE

57. In extremely warm weather, the wax of models is liable to get so soft that the weight of the head will cause the neck to bend or the bust to sink in. This never happens, however, when a head is properly braced inside. Wax figures that have become bent may be restored to their original shape as follows: First immerse the bent or sunken part in water that is hot enough to soften the wax thoroughly. Next remove the head from the water and manipulate the wax back into shape by pushing out the sunken or bent part. Care must be taken not to allow the weight of the head to rest on the sunken part, for which reason it should be suspended in the hot water by means of a string tied around the hair in a manner similar to that shown in Fig. 52. This operation must be done slowly and with great care. The best plan is to do only a little at a time, putting the wax back into the water and repeating the operation until the sunken or bent part is back to its original shape.

REPAIRING BROKEN WAX

58. The window trimmer is sometimes called on to repair slight breaks and cracks in wax figures, such as a cracked neck, a broken ear, a broken finger, etc. Such repairs can be successfully made if ordinary care is taken. It is not



FIG. 56

advisable, however, to undertake the job of making difficult repairs. Such work should be left to the makers of wax heads.

59. In mending a broken finger it is advisable to insert a piece of stiff wire into the stub of the finger that remains on the hand, as shown in Fig. 56 (a), and then shove the other

part over the wire. Care should be taken to have the two parts fit well, but they must not be pushed together until a knife that has been heated over an alcohol flame has been applied to the broken edges so as to melt the wax slightly. The broken parts may then be pushed together quickly, when they will adhere to each other. Fig. 56 (b) shows how the finger will appear at this stage of the repair. After the wax has united, any defects that appear around the break should be filled in with a piece of wax taken from the wrist of the hand that is undergoing repairs. Any rough part should be smoothed by rubbing a heated knife blade flatwise over the surface and then using a piece of fine sandpaper. After this operation, the surface of the wax should be rubbed with a rag moistened with kerosene, turpentine, or benzine. Then the surface will be ready for the finishing powder.

60. The wax used in filling bad spots must always be taken from the article that is undergoing repairs, because the slightest difference in shade will show too plainly where the defect is located. For hand or finger repairs, sufficient wax can be taken from the edge of the wrists; for head repairs, it can be taken from the inside of the bust or the neck.

In repairing breaks of parts larger than fingers, it may be necessary to use several short pieces of stiff wire to make the work secure. Cracks or breaks in the head can be mended only by heating the broken edges to the melting state and then quickly pressing them together; that is to say, no wire can be used in such places. The remainder of the operation is the same as is outlined for broken fingers.

PERMANENT BACKGROUNDS AND PARQUETRY FLOORS

PERMANENT BACKGROUNDS

INTRODUCTION

1. A window display, like a picture, must have a *background* against which the objects displayed in the foreground may be seen. The purpose of the background is to bring out the full value of the goods, and to get the best results it must harmonize with them both in design and in color.

Practically only two kinds of backgrounds are known among window trimmers—*temporary backgrounds*, or those which are changed to suit displays, and *permanent backgrounds*, or those which are built in a show window to stay. Only permanent backgrounds will be considered in this Section; the other style is taken up in another Section.

2. **Permanent backgrounds**, or *backings*, as they are often called, are used chiefly in the better class of mercantile establishments. They are made of wood of various kinds, which is usually paneled, of mirrors, and of wood and mirrors combined; also, in many cases, art glass is made use of in order to create some particularly striking effect.

Complete backgrounds for any style of show window can be obtained from manufacturers that make a specialty of this class of work. Paneled window backing, wainscots, and other parts required to form backgrounds are carried in stock by such concerns. These parts are constructed on

what is known as the *unit system*. In other words, they are made so that one part will exactly fit another, thus making it possible for the window trimmer or a carpenter of ordinary ability to put them in place without any difficulty. The panels come in various widths and in heights up to 6 feet, and it is possible to secure the exact number of sections, or parts, to fit any wall or backing space of a show window. This unit system of producing backings makes it just as easy to fill in all irregular spaces around doors, offsets, etc. as it is to install a straight run of paneled backing. All paneling is shipped "knocked down," and the work of putting it together, as inferred, is very simple.

3. The window trimmer that aims to become an expert or seeks to qualify for the position of head decorator in any large mercantile establishment must be well informed about backgrounds. He not only must be posted in regard to the details and conditions that govern the proper design or style for a certain show window, but must be familiar with the nature and properties of the raw materials so as to be able to criticize the workmanship intelligently and judge the quality of the materials employed. In many instances he must be fully prepared to suggest improvements and furnish ideas in regard to backgrounds along practical lines; also, if competent, it often falls to his lot to submit plans of appropriate permanent window settings, equipment, furniture, and fixtures required, as well as to designate the materials that will be appropriate and most effective for displaying some special line of merchandise. It is not the intention here to give instruction in the designing of permanent backgrounds, but to tell of conditions that govern their selection and to illustrate many of the styles used in up-to-date establishments.

SELECTION OF BACKGROUNDS

4. In the selection of a proper permanent background there are many things to consider. Chief among them are (1) the style and design of the backing; (2) the color and finish of the woodwork; (3) the kind of wood to use; and (4) the location of the entrances in the backing. Each of these is governed in some way by the size and location of the show window and the class of merchandise to be displayed, as will be seen.

5. **Style and Design of Backgrounds.**—In choosing a design or style for a permanent background, it is advisable to keep in mind that the chief function of a show window is to display goods, and that everything else is subordinate to this purpose. The use, therefore, of any elaborate ornamentation that will tend to distract the attention of the onlooker from the merchandise itself is as unwise as the use of pretentious fixtures, which merely tire the eye and draw it away from the goods. The simplest treatment is usually the most effective in a paneled background. Just sufficient elaboration to give tone, style, and consistency to the architectural effect required is all that is necessary. Consistency is a factor that cannot be disregarded if good results are desired. If columns or pilasters treated with capitals belonging to a particular architectural order are employed to separate paneled spaces in a background, then the moldings used for the cornice, as well as other parts of the backing, must be consistent in detail. In selecting a style, however, it is well to avoid intricate carvings and inappropriate bas-relief ornamentation on any part of an entablature, which includes the parts above the capital of a column.

6. Any marked uniformity in the principal measurements of a show-window panel backing should be avoided, because it never looks well and is always monotonous. One division of the backing, namely, the middle one, should invariably be larger and more prominent than the others and thus appear dominant; and while this division should

be proportionate in dimensions to the whole background, it should be the principal echo of the general outline. The small divisions in such backings should, of course, be similar in design to the large central panel.

Paneling in which vertical or horizontal lines predominate will have the effect of producing an undue elongation or contraction of the surface they are intended to ornament. Vertical lines will make a low window backing look higher, and longitudinal lines will make a narrow window appear broader. To arrive at the proper conditions of harmony in length, breadth, or contour, the principle of contrast must be judiciously exercised. A parallelogram whose dimensions are a double square is a good standard of proportion for all panel or surface ornamentation, and a plane the breadth of which is about two-thirds its height may be taken as a figure of good proportion.

7. Color and Finish of Woodwork.—The backing for a furnishing-goods window should possess sufficient color to enhance the appearance of the merchandise displayed in front of it. The trimmer that is called on to suggest a suitable wood background should remember that, with only a few exceptions, dark finishes, such as are obtained by the use of mahogany and walnut, lend a more refined and softened atmosphere to the window than can be secured by using extremely light finishes.

All light-colored merchandise, such as neckwear, shirts, underwear, etc., will look cold, insipid, or inartistic, no matter how cleverly they are arranged, when placed before a background of pale-yellow oak or some other light-colored wood. This is due to an absence of contrast. All these colors are too cold and they lack that attractive power which lies in warm color combinations or in unobjectionable contrasts. Mahogany, walnut, and other dark finishes are rich in effect, but they require the use of light-colored merchandise in the trim to produce correct results.

8. The size of a show window governs to a great extent the finish to be employed. The larger the area of the window,

the more light there will be and the darker the general window equipment may be without destroying its effectiveness. A low, narrow window, therefore, should have a setting as light and bright as possible in order to make it look inviting.

The location of a store, too, has a direct bearing on the kind of finish to select. It is a well-known fact that often one side of a street receives more sunlight than the other. This is more pronounced in some localities than in others, especially where the streets are narrow. For this reason, it is safe to adopt woods of light color for stores located on the dark side of a street and to utilize the dark woods for store windows on the side that receives the most light. In some of the large cities the buildings on many streets or sections of streets are so tall that they exclude the sunlight entirely. The show windows of stores located on either side of such streets, of course, demand backgrounds of the same finish as those of establishments situated on the dark side of a thoroughfare.

9. Woods Used in Backgrounds.—Both hard and soft woods are utilized in the construction of permanent backgrounds. The kind of wood to choose, however, depends in most cases on the amount of money that can be expended. Naturally, the best effects are obtained by the employment of genuine, well-seasoned mahogany, walnut, oak, ash, or birch carefully finished with gloss or satin finish in varnish or wax. Most of the hardwoods used for first-class work in show-window paneling are in the shape of veneers built up on staved backings; that is, backings composed of narrow strips of cheaper woods laid with reversed grain in order to prevent warping. Although a paneled backing stayed up and veneered in the real wood will be found somewhat expensive, it is decidedly strong and durable, and, besides, it will not check, warp, or shrink.

When, for reasons of economy, such soft woods as poplar, bass, and pine are utilized, they are generally stained to represent oak. If backings are made of wood stained or grained to represent some other kind of wood, care must be taken to

find out whether or not all panels have received a coat of stain and filler before being fitted to the frames. No matter how well seasoned the wood may be, it is bound to shrink somewhat, and unless all panels are previously treated as suggested, the shrinkage will sooner or later cause a light line to show around the edge of the panel.

In any event, it is always well to remember that the genuine woods will wear the best and will prove more satisfactory, both in durability and appearance, than any cheaper substitute stained to imitate them.

10. Show-Window Entrances.—The best location for a show-window entrance is in the center of the background. In most modern backings, one or more of the paneled sections are made to constitute the door. If the panel work is raised or done in relief, this door is hinged to swing back into the store; if it is countersunk, the panel forming the door is either hung with regular pulley and sash weights and made so that it can be raised like any ordinary window sash, or built to slide back and forth on a track in the rear of the other panels, like the doors on some kinds of show cases.

Should the windows, owing to the narrowness of a store, be shallow, one entrance door for each window will be sufficient. The preferable location for an entrance of this kind is at the end farthest from the main store entrance. However, if there happens to be an offset at this place, the door should, whenever practicable, be placed in the middle of the background, or division, as the distance to both ends of the display window will then be equal.

If the style of window trimming calls for the introduction of large decorative pieces, or if furniture and large articles not made in sections are to be displayed, it is customary to have a door formed of two panels. Another plan is to have a portion of the sash above the door made movable so as to permit such articles to be brought into the window.

EXAMPLES OF BACKGROUNDS

WOODEN BACKGROUNDS

11. Low Backing.—In Fig. 1 is illustrated what is commonly known among window trimmers as a **low backing**. This style of backing, or background, serves merely to screen the lower portion of the window back from the store and at the same time prevent the promiscuous handling of articles placed in the window. For displays that have to be frequently changed, for goods that are of a perishable nature and have to be constantly taken from the window, as well as for valuables that have to be taken out each night and



FIG. 1

replaced in the morning, a low paneled screen backing is considered more practical than a background that encloses the entire window. The use of low backgrounds, therefore, is confined chiefly to the show windows of jewelers, druggists, fancy grocers, confectioners, merchant tailors, small manufacturers, wholesale houses, etc. For stores that have considerable depth and a limited frontage, such backings are considered to be a necessity, because they allow the greatest possible light to enter the storeroom. A twofold advantage

is claimed for low backgrounds, namely, inexpensiveness and facility in the rearrangement of merchandise on display.

12. Medium-High Backgrounds.—In the majority of the large mercantile establishments it has been found advisable to screen the inside of the shop from the eye of the observer and in this way cause his attention to be focused on the display alone. This is accomplished by using **medium-**



FIG. 2

high backgrounds. Such window backings usually consist of paneling that is carried up to a line level with the top of the store doors or store entrance and a glazed framework that extends to the ceiling but in no way interferes with the symmetry of the panel design.

13. Backgrounds for Double-Deck Windows.—By a **double-deck window**, or a *double-decker*, as it is fre-

quently called, is meant a show window that is divided into two compartments by means of a subceiling. Windows belonging to stores of unusual height are usually divided in this manner. A background suitable for a window of this kind is shown in Fig. 2. The part below the subceiling consists of wood paneled to harmonize with the paneling of the subceiling, and the part above the subceiling consists of art glass in wooden frames. The sides in both the upper and the lower compartment are alike. On the right, mirrors are used, and on the left wood paneling is employed.

The space above the subceiling of a double-deck window can be utilized to good advantage, provided it is more than 3 feet high. In a top space that is 6 or 7 feet high there can be effectively shown such articles as trunks, bags, house furnishings, suit cases, umbrellas, certain lines of furnishing goods, and clothing and other outer wear on figures, forms, and busts. All of these require but little preparation, are quickly placed in position, and need no particular setting. In trimming a double-decker, it is well to remember that unless the store is located on a very wide thoroughfare, or there is a balcony inside the store that permits of observing the upper display from the rear as well as from the front, it is useless to trim the entire upper space clear to the back, because only the front row of articles will be seen from the sidewalk.

If the upper compartment of a double-decker is not over 2 or 3 feet high, it is much better to utilize the space solely as a transom for the admittance of light and air into the store than to try to use it for the display of merchandise. Its lowness not only restricts the number of articles that can be shown to advantage, but makes it hard for the trimmer to do justice to his work.

In some cases the space above the subceiling is left open; but in order to protect the merchandise on display from the dust that is constantly raised by the travel of both clerks and customers in a store, it is essential that the upper section of a double-deck window be protected by an enclosed backing of all-glass sash clear to the ceiling, as shown in Fig. 2.



FIG. 3

14. Backgrounds Fitted With Display Shelves.

Instead of dividing windows into compartments by means of subceilings, it is sometimes advisable to attach **display shelves** to the backgrounds of show windows. A background fitted with a window shelf is shown in Fig. 3, which also illustrates a stocky display of haberdashery. The backing under the shelf consists of paneled wood and that above of paneled glass. The shelf is located about 3 feet above the floor, and it is held in place by means of brackets. Some shelves, however, are held up with chains and hooks, hinges being used to secure the shelves to the backing. The height at which to place window shelves is governed largely by the panel design of the backing, but, in any event, they should not be placed so low that window dividers cannot be arranged underneath them nor so high that merchandise displayed on them will not be plainly seen from the street. Window shelves serve to diminish the height of a show window just as do the subceilings of double-deck show windows, and in addition they give larger display space.



FIG. 4

15. Backgrounds With Narrow Vertical Paneling.

For show windows of medium depth that have low subceilings, backgrounds made up of **narrow vertical paneling** similar to that shown in the haberdashery display illustrated in Fig. 4 will prove to be excellent in many instances. The

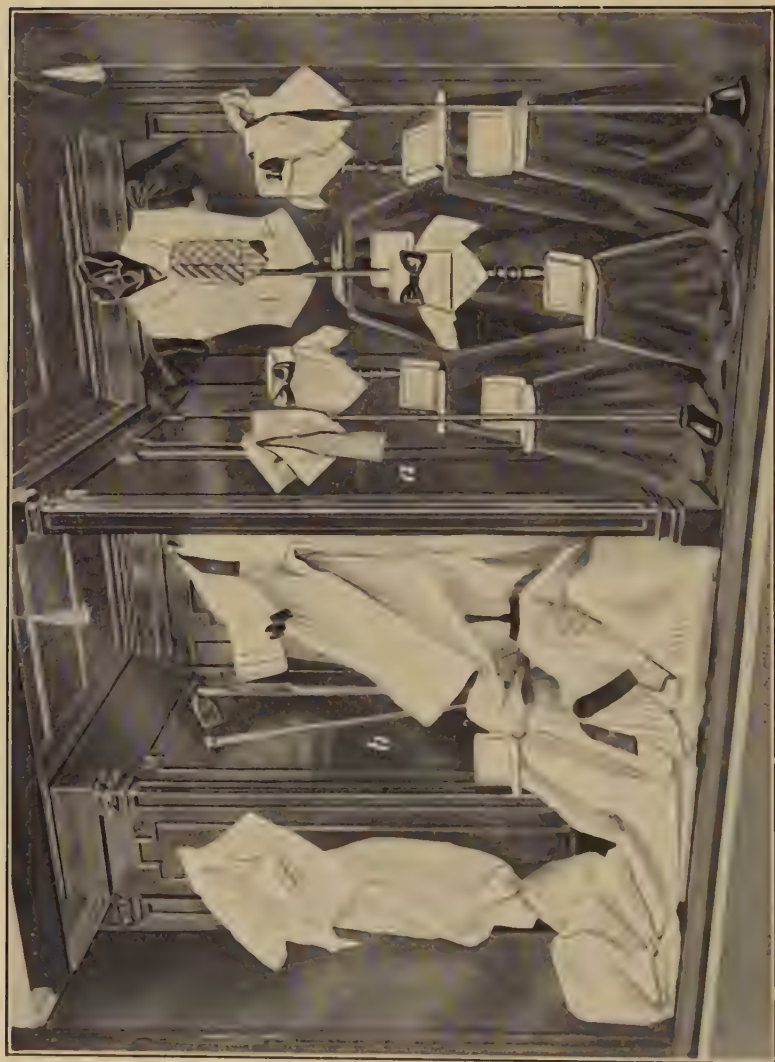


Fig. 5

height of this paneling is about 6 feet and no cornice or frieze is employed. Because of its shape and width, such paneling, finished in light oak, is used considerably in haberdashery and clothing stores.

At the left of the illustration is shown one method of treating the large pillars that must sometimes be built when the front of an old store is remodeled and extended. In this backing, the paneling is built square, although in many cases it is made either hexagonal or octagonal.

16. Backing for Compartment Windows.—In many of the high-class haberdashery, hat, and specialty stores, the window space is divided into compartments by running partitions from the floor to the ceiling, thus forming what are known as **box, or compartment, windows**. Fig. 5 shows a haberdashery display in a compartment window fitted with an excellent mahogany background and partition. The panels of both the backing and the partition have rosetted corners and are divided by pilasters finished with a composite cap. The dividing partition *a* is carried to the same height as the cornice and extends at right angles from the middle of the backing to within a few inches of the front glass, where it is finished off with a pilaster similar to the ones used in the backing. The manner of finishing the front and sides of the subceiling—that is, by continuing the entablature all around—gives an effect that is both distinctive and pleasing. The symmetry of the compartments in this window, however, is marred somewhat by the offset *b* in the compartment at the left. In addition to separating windows into compartments, partitions that extend to the cornice in the manner shown in the figure act as an intermediate support for the subceiling.

MIRROR BACKGROUNDS

17. The main object of using **mirror backgrounds** is either to give an enlarged appearance to the show window or to get the benefit of a full double or multiple reflection of the goods on display. Although they have proved to be most effective when used in windows of shallow depth or

when placed at the end wall of a narrow window to make it appear wider, they have also been found useful for deeper windows, especially those located on the dark side of a thoroughfare, where their use tends to lighten up the rear of the window and to throw a brighter light on the merchandise.

For a few classes of merchandise, such as uncut fabrics, silks, dress goods, bolt goods, and articles of furniture, or the like, with unfinished backs, mirror backgrounds are not suitable; but they are admirably adapted for the display of men and boys' haberdashery, hats, shoes, and clothing or women and children's wear, including millinery, shoes, suits, embroideries, laces, ribbons, gloves, parasols, etc.

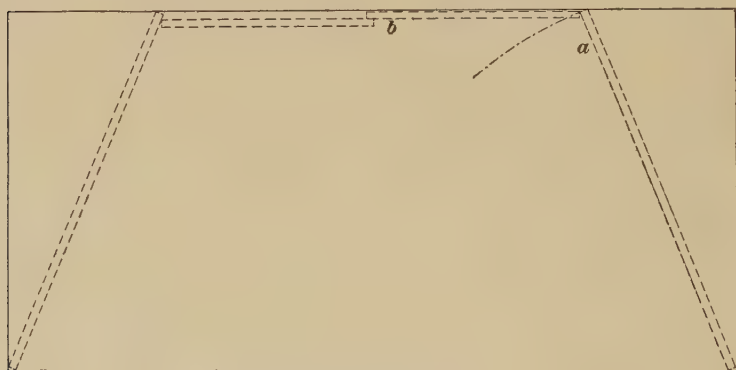


FIG. 6

18. Arrangement of Mirrors for Backgrounds.—To obtain the best results, where an enlarged appearance is required, the entire back elevation, sides, and walls of the backing, as well as the dividing partitions, provided they are used, should consist entirely of mirror plate. The exact height and width of the panels to use depend a great deal on the style of architecture and the shape of the window. As a rule, for the average square window, the mirror back should be not less than 7 feet high, with a corresponding height for side or partition mirrors. Generally, mirror panels are used square; that is, the sides or dividers are placed at right angles to the back.

To obtain a correct multiple effect, three mirrors should be arranged in the manner indicated by the dotted lines shown in Fig. 6. This disposition gives the desired multiform illusion but necessitates having at least one of the panel divisions movable or mounted on casters so that an entrance can be formed, as indicated at *a*. In some cases, however, the mirror panel at the back consists of two pieces, one of which is made to slide behind the other on a metal track, as indicated at *b*.

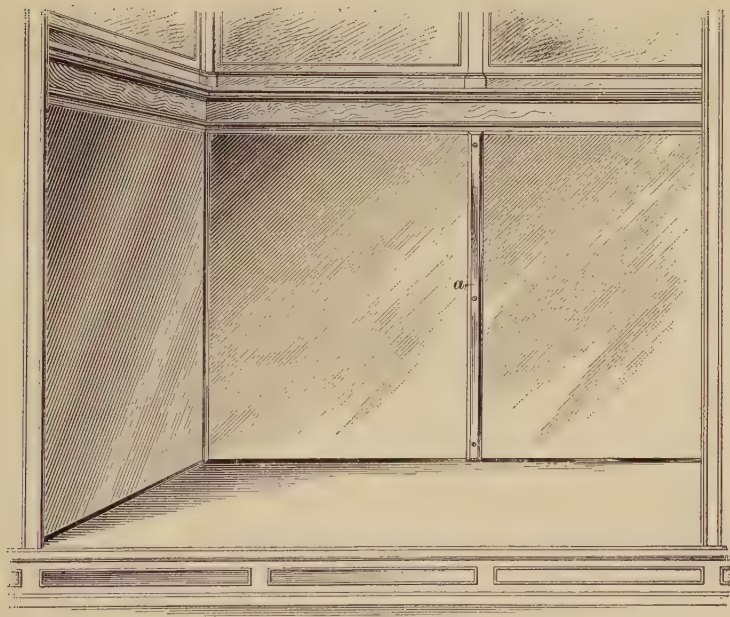


FIG. 7

19. Frames for Window Mirrors.—The effect produced by mirrored show windows depends considerably on the kind of frames that are employed to support the mirrors. Wooden frames from 3 to 6 inches wide, which were used extensively until recently, deprive the mirrored window of a great part of its usefulness. For good results, the framing should be as narrow as possible—in any event, not over 1 inch in width—and metal should be given preference over wood.

Fig. 7 shows an excellent way of securing the mirrors used to make up a background. The mirror plates are fastened to backings with a level mirror strip *a*, and where they meet at right angles, as in the corner, no frame is used at all, the edge of the mirrors being mitered so as to form a neat joint. Sometimes the corners are formed by simply butting the polished edges of two mirrors together.

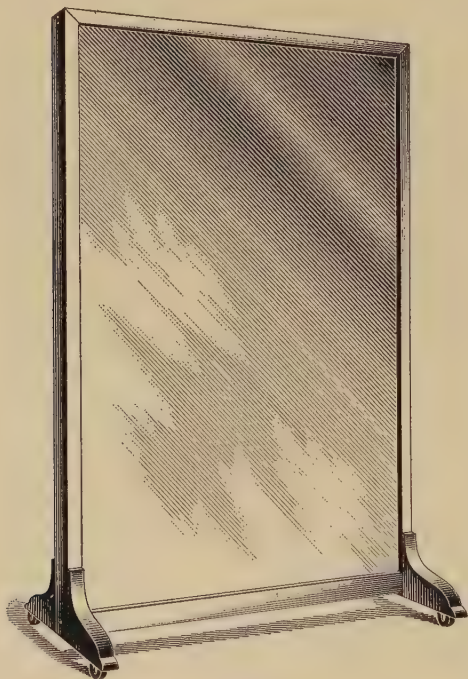


FIG. 8

20. Mirror Screens, or Dividers.—For dividing mirrored windows into compartments, **mirror screens, or dividers**, are very suitable. In Fig. 8 is shown a practical style of panel mirror screen, or divider, that is sold by regular fixture houses. It has a 1-inch metal frame and is mounted on rubber-tired casters, which enable it to be easily moved. Mirror screens of this style may be had

separately in single, double, or triple panels. Another style of screen is fitted with double-action hinges, which make it possible to form a double- or a triple-paneled screen that can be adjusted to any angle or folded flat and placed so as to form a temporary background.

COMBINATION BACKGROUNDS

21. Backings With Mirror and Art-Glass Panels.

Among the types of modern, practical backgrounds, those fitted with mirror and art-glass panels are rapidly gaining

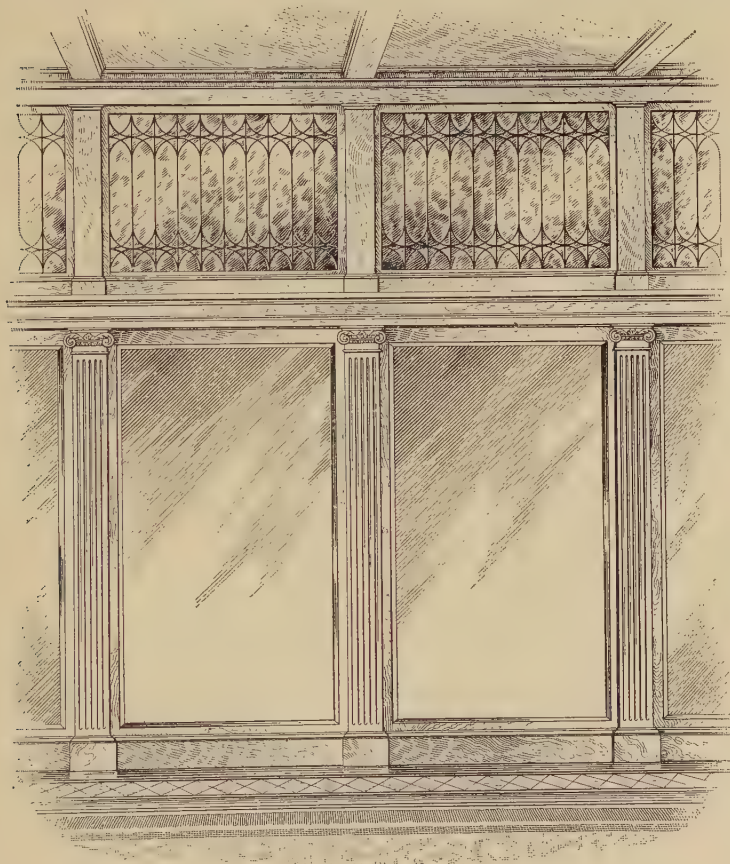


FIG. 9

favor. At one time, very little art glass was employed in backgrounds. However, since prism glass has come into extensive use for transoms and intermediate ceilings have increased in popularity, the use of art glass, or cathedral or

stained glass, as it is frequently called, has become more and more general for background purposes.

Fig. 9 shows a section of a window background in which mirror and art-glass panels are used. The mirror panels are between the pilasters in the lower part of the backing, and

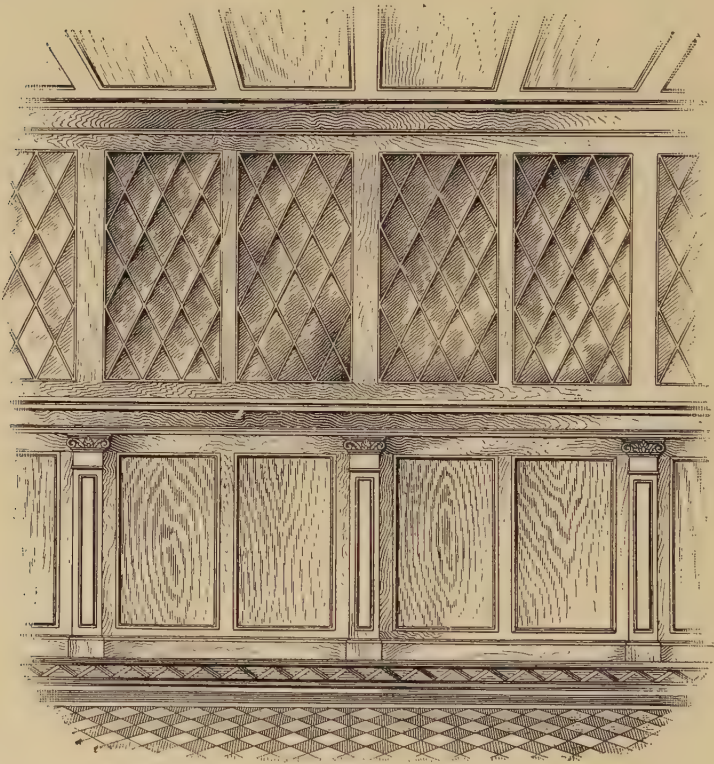


FIG. 10

the art-glass panels are in the upper part. The subceiling is paneled in wood to harmonize. To give an idea of the size of this backing, it may be said that the window in which it was placed was 12 feet high and 8 feet deep. The mirrors between the pilasters were 6 ft. $\times$ 3½ ft., and the pieces of art glass filled a space of 3½ ft. $\times$ 2½ ft.

22. Backgrounds With Paneled-Wood Dadoes and Glass Panels.—In Figs. 10, 11, and 12 are shown three examples of backgrounds in which wooden panels are used in the lower part, or dado, and glass panels are employed in the upper part.

In Fig. 10 two wooden panels between pilasters form the design for the dado, and diamond-shaped panes of antique, or cathedral, glass held together by means of copper binding are used for the upper panels. The paneled dado is $3\frac{1}{2}$ feet high and the wood trim for the glass panels is 4 feet, making a backing that is $7\frac{1}{2}$ feet in height. The subceiling of this background is of wood paneled to harmonize with the backing. The backing in Fig. 11 differs considerably from the one shown in Fig. 10. The dado consists of a single, large panel between two pilas-

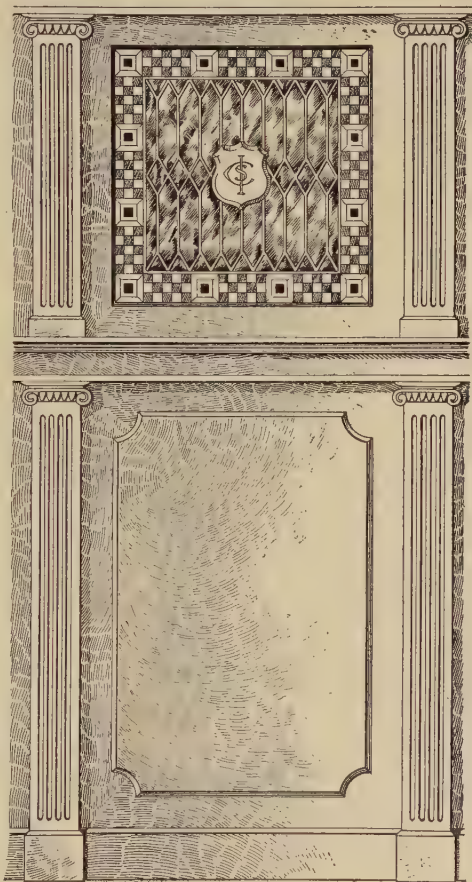


FIG. 11

ters, and the upper part has an art-glass design in a frame between pilasters similar in style to the lower ones. The size of the panels is the reverse of those shown in Fig. 10; that is, the lower panel is the larger and the upper panel the smaller. The original of this backing was decidedly striking.

The central part of the art-glass panel consisted of a geometrical design of cathedral glass that was partly opalescent and of low tones of varying green tints. This was relieved



FIG. 12

by a border of small pieces of colored glass arranged so as to produce a mosaic effect. In addition, a shield with a monogram was placed in the center of the panel. The mosaic

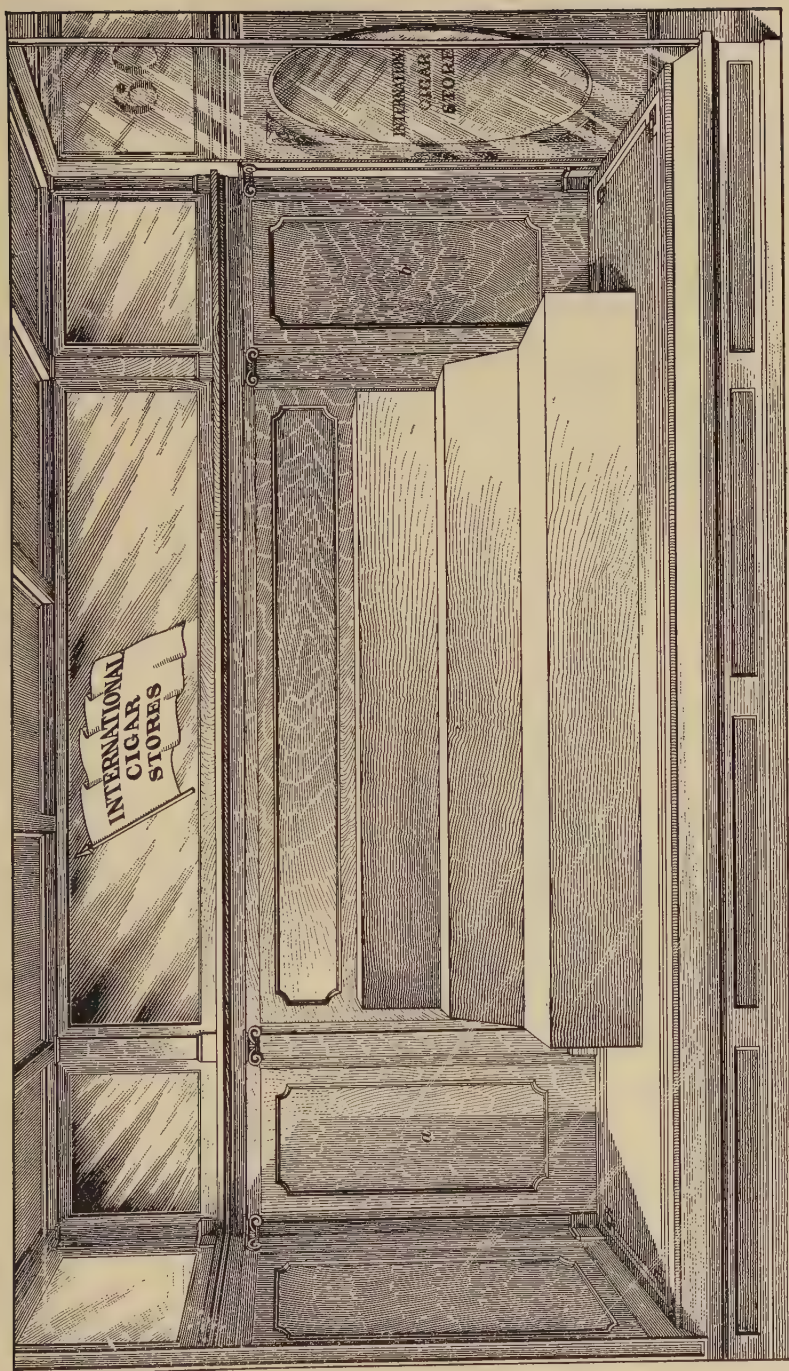


FIG. 13

border and the shield added greatly to the general appearance of the backing and contrasted well with the woodwork, which was of mahogany. There was also a slight frieze and a panel ceiling in the original of this example.

The backing shown in Fig. 12 illustrates well the method followed when no subceiling is used. In such cases, the paneled wainscot is usually carried up to a height of 6 to 8 feet, as required, and finished with a frieze or a cornice, above which is usually left sufficient space for plain glass and sash, so as to admit light to the store.

In the original of the example shown here, the paneled backing and the wood trim were done in mahogany. The height of the paneling was $6\frac{1}{2}$ feet to the top of the cornice, and from this point up to the ceiling of the storeroom was plain glass in frames $3\frac{1}{2}$ feet high. The ceiling was paneled and was made of the same kind of wood as the backing.

23. Backgrounds With Permanent Low Shelving and Panels.—Fig. 13 illustrates a type of window background in which the lower portion, to the height usually occupied by a dado, is treated with a permanent shelving, or what is commonly known as *pyramid*, or *step, fixtures*. The lower part of the backing, including the entrance doors *a* and *b*, and the subceiling are neatly paneled, as shown. The upper part of the backing, however, is fitted with clear glass, the purpose of which is to admit light to the store. This style of backing is extensively used by a prominent tobacco concern that operates several hundred retail stores in all parts of the country, and is shown here simply to illustrate its method of installing effective permanent wooden backs in the shallow windows of all its establishments.

As a rule, the height of the storeroom governs the height of both the window floor and the subceiling, and a space of 2 to 4 feet, according to depth of store, is always left for use as a transom to admit light and air. If the total width of a store is only 15 feet, its height but 12 feet, and the depth of the window less than 3 feet, the floor of the window is placed $1\frac{1}{2}$ feet above the ground, the subceiling is located 7 feet

above the window floor, and a space of $3\frac{1}{2}$ feet for the transom is left above the subceiling, making a total of 12 feet, or the height from the floor to ceiling inside the store.

One of the drawbacks to the use of a long stretch of continuous permanent shelving in any kind of shallow window is that it necessitates two entrances, one at each end, as at *a* and *b*, in order to trim it properly.

24. Although designed exclusively for cigar stores, the background and permanent shelving shown in Fig. 13 will be found suitable for drug, grocery, stationery, and other stores that handle package goods or merchandise that is small and of a diversified character. In extremely long, narrow spaces, say a front having two panes of glass of the same size as the one shown in the figure, the shelving can be broken up into three sections by placing the entrance doors of the backing immediately behind the center of each pane of glass. This will give one large shelf in the center of the window space and a small one at each end. Besides facilitating the arranging of the merchandise, an arrangement of this kind provides easy access to the goods on display. The space in front of each door can be filled by using shelf stands of the same height as the permanent shelving or by building a pyramid of package goods.

BACKGROUND DRAPING

25. At times it is advisable to break up the monotony occasioned by the prolonged use of permanent backgrounds. Perhaps the simplest and most effective way of providing a complete change is to drape the backings with loosely falling curtains of plush, velour, velvet, sateen, or some other suitable fabric. The methods of draping such materials are numerous, as are also the sizes and finishes of rods used for this purpose.

26. Draping Rods.—The kind of rod on which to drape materials depends considerably on the style of backing.

Although regulation wooden or brass curtain poles are occasionally used for this purpose, in most cases that demand proper equipment the rod is of metal that is either oxidized or nicked or has a finish of either dull brass or gun metal, to match the display stands. Such rods vary in diameter from $\frac{7}{8}$ inch to $1\frac{1}{2}$ inches. In making a selection of rods, the best plan is to choose those which will harmonize well with the style or color of the wood backing, and at the same time present a neat and attractive appearance.

For backgrounds with a large single panel between pilasters,



FIG. 14

as in Fig. 14, a short rod like that shown at *a* will be found suitable. One rod of this size should be placed over each panel of a backing. Other lengths of rods are shown in Figs. 15, 16, and 17. In permanent paneled backgrounds, draping rods are usually supported by small brackets that extend about 2 inches from the backing and

are attached to the top rail of the dado paneling, below a frieze or a cornice, by means of small round-headed screws.

27. Examples of Draping. — In Fig. 15 three styles of drapes are shown on a rod located above the dado paneling, and on a rod near the top of the backing is a cut drapery, which in many cases is employed for diminishing the apparent height of the background. The drapes shown at *a* and *b* are brought out more clearly in Fig. 16. The style of drape shown at *a* is neat, and besides it is the most simple one to make. A single slot heading through which to pass the rod

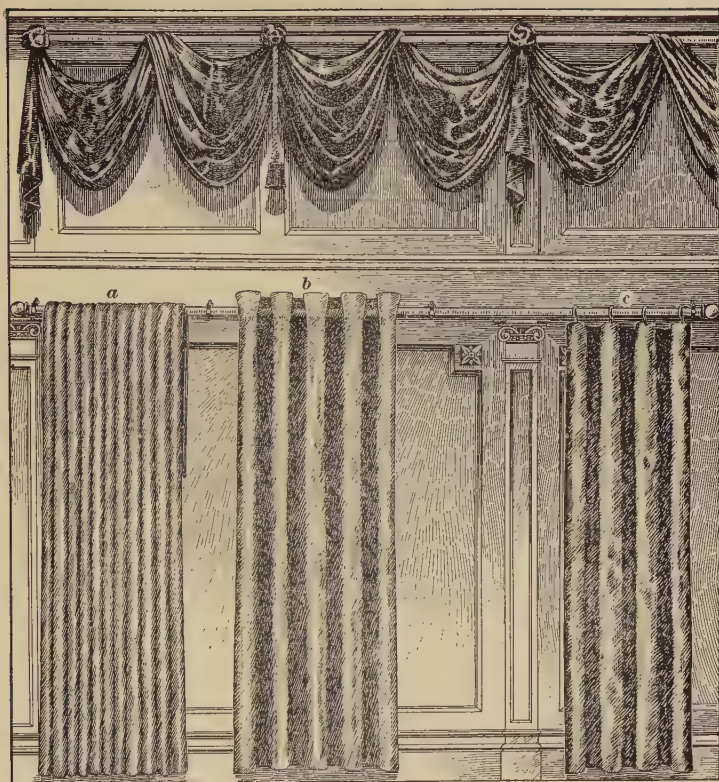


FIG. 15

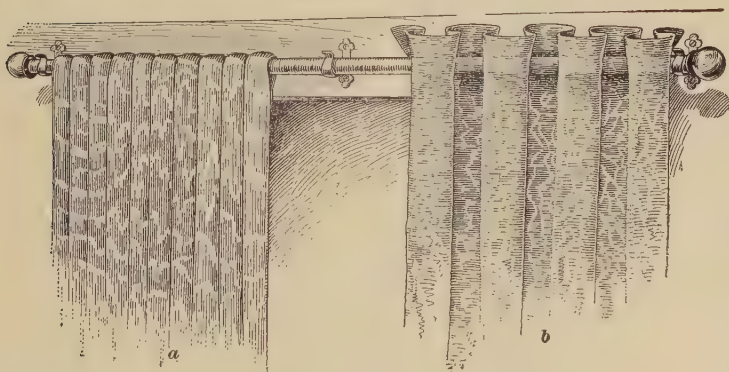


FIG. 16

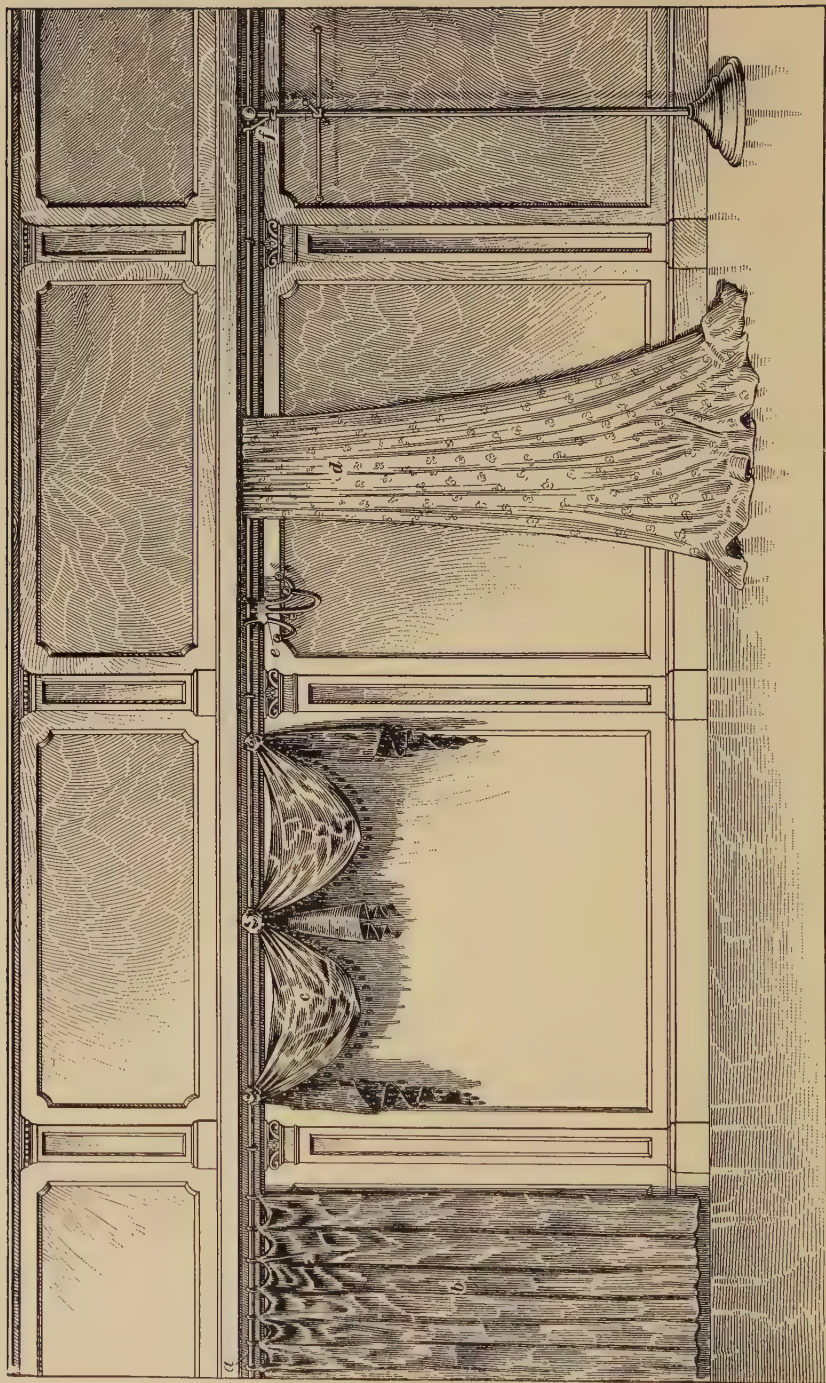


FIG. 17

is first formed, after which the material is shirred, or fullcd, on the rod. The style shown at *b* is frequently employed. It consists of a slot heading with a narrow box-plaited ruffle on top. This ruffle is usually from 4 to 6 inches wide. The material shown at *c* is suspended by the aid of rings.

To get the proper effect for a loosely hanging curtain, the material should be about twice the length of the draping rod and extend from 8 to 10 inches above the rod, according to the size of the slot, hem, and ruffle. For example, an 8-yard length of material would be required to make a suitable curtain for a show window having a 12-foot background. In making a curtain of velour, plush, velvet, or other pile goods, care must be taken to have the nap of each width run the same way—preferably down.

28. In Fig. 17 are shown several ways of utilizing a draping rod. The rod *a* in this figure extends the full width of the show window. At *b* is shown a drape supported by rings in practically the same manner as the one shown at *c*, Fig. 15. If a rod in a display window is not covered with draping curtains, cut drapes, like the one shown at *c*, or small hand drapes of some kind of fabric—for example, velvet—are occasionally used to lend color to a trim. If regularly cut and fitted festoon draping is to be used, the best results will be obtained by having some regular upholstery or drapery concern make the drapes to order.

At times the rod is utilized in making displays of merchandise. Dress goods may be draped on it, as shown at *d*, or display fixtures on which to hang merchandise may be secured to it, as shown at *e*. It may also be utilized to brace tall fixtures, as shown at *f*, so as to keep them from toppling over.

In addition to the materials already mentioned, lace curtains and upholstery fabrics can be used effectively in windows fitted with draping rods. Such merchandise can simply be thrown over the rod for display purposes, or draped so as to form a background decoration.

PARQUETRY FLOORS

REMARKS

29. Although floor coverings of carpet and other fabrics are used in connection with permanent backgrounds, **parquetry floors** seem to be favored by the majority of window trimmers. Such floors are made up of what are commonly known as *parquetry blocks*, which consist of small strips and pieces of well-grained and well-seasoned wood of different grades and colors glued together at their edges and to a piece of canvas at their bottoms. Such blocks are usually made square, and in sizes that vary from 6 to 14 inches, and if the window space in which a floor is to be laid is of an odd shape, some of the blocks must be shaped to fit it. Great care is taken to match the pieces of wood and to arrange them so that the blocks when laid together will form a regular geometrical figure in imitation of inlaid or mosaic work; also, a high polish is given to the parquetry blocks, so that they produce an effect that is decidedly rich and attractive.

The possibilities of perfect color schemes for window floors, in which the foundation is the deep, subdued tones of hard woods, is just beginning to be appreciated. The soft tones that natural woods of different colors present when left free from vulcanizing, burning, or staining make a subdued and harmonious groundwork for any scheme of the decorator.

30. The initial cost of parquetry flooring is greater than that of ordinary fabric floor covering, but on the other hand it is not so great as that of some of the finer grades of carpet occasionally used for window floors. In any event, parquetry flooring that is well taken care of will outwear any kind of fabric floor covering and in this way prove to be a profitable investment.

Besides these advantages, parquetry flooring is superior to fabric coverings from an artistic point of view. Its highly polished surface, its cleanliness, and its beauty afford the best ground on which to arrange all classes of merchandise except the yard goods that are shown on stands and must be plaited and pinned to the floor. For such goods, however, a center of carpet, plush, or felt surrounded by a parquetry border will be found suitable.

PARQUETRY FLOOR AND BORDER DESIGNS

31. Floor Designs.—Two excellent designs of floors made up of parquetry blocks are shown in Figs. 18 and 19. Both of these floors consist of a central design and an appropriate border of light and dark woods. The design in Fig. 18 is made up of blocks 12 inches square and is intended for



FIG. 18

a large show window. On flooring of this style may be displayed to advantage such articles of merchandise as men's furnishings, shoes, hats, clothing, millinery, groceries, hardware, etc. The floor design shown in Fig. 19 is intended for smaller windows, such as the small compartment windows

of haberdashery shops. The blocks in this design are only 6 inches square, thus making a floor suitable for displaying small articles, such as jewelry, etc.

32. Border Designs.—Designs of parquetry borders suitable for both large and small display windows are shown in Fig. 20. The design shown in (a) is an excellent one to use in a large space, provided the border is made up of a combination of maple and mahogany and the window backing is of paneled oak or is mirrored. When used with a field of plain blocks like the field shown in Fig. 18, the effect is especially pleasing. The design shown in (b) is also suitable

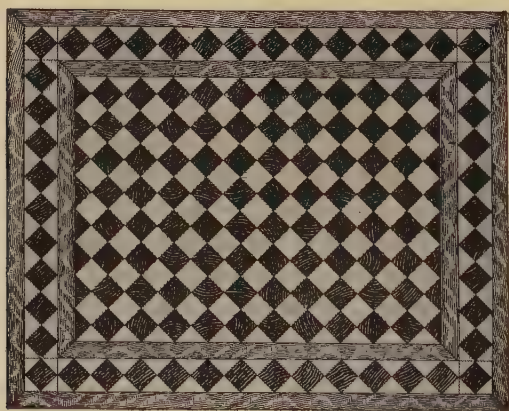
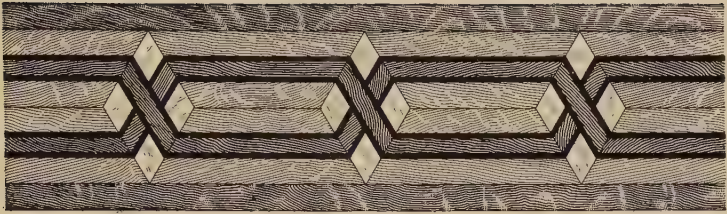


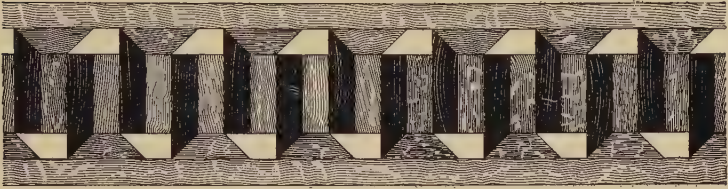
FIG. 19

for large spaces. It may be combined with almost any style of field. The borders shown in (c) and (d) are intended for small show windows. They make excellent borders for fields of small blocks.

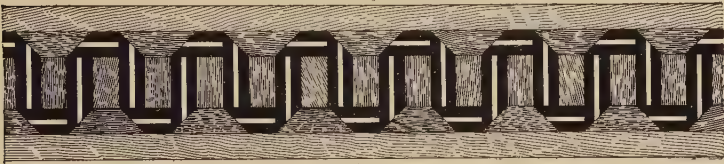
33. In Fig. 21 is shown a parquetry border surrounding a carpet center. As already mentioned, floors of this kind are sometimes used instead of an all-carpet covering in windows where it is necessary to pin dress goods and similar materials to the floor in making displays. Besides carpet, plush, felt, etc. can be used with good taste for centers.



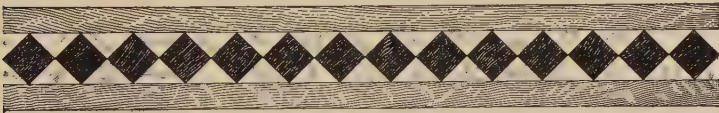
(a)



(b)



(c)



(d)

FIG. 20

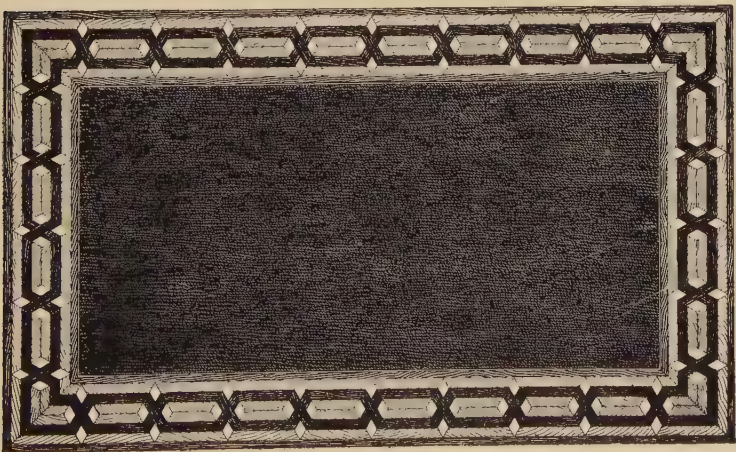


FIG. 21

WOODS USED FOR PARQUETRY FLOORS

34. Among the native woods employed in the construction of parquetry floors, oak, maple, cherry, and walnut are the most prominent. The three mentioned last are used mostly in small pieces or narrow strips, affording a pleasing contrast when used in conjunction with oak. Their qualities will not be discussed, because they are seldom used in any other way than that mentioned. The foreign woods that are used for parquetry include mahogany, *prima vera*, rosewood, French walnut, vermilion, amaranth, ebony, and tulip. Of all these woods, mahogany is used most extensively. The others are simply used in small pieces to add color or uniqueness to a parquetry design.

35. Oak.—On account of its hardness and beautiful grain and color, **oak** is the wood that finds the greatest use in the construction of parquetry floors. Among the species of oak native to America, *white oak*, which derives its name from the color of its bark, is by far the most desirable for this class of work. A fine grade of quarter-sawed white oak shows a beautiful silver or feathery grain, with the medullary rays perfectly developed. Its wearing quality, when finished properly, is excellent, and by its use, both alone and in conjunction with other woods, some artistic effects can be obtained.

Another oak native to America, namely, *red oak*, is used considerably for parquetry. Its name is derived from the brilliant red color that its leaves assume in autumn, and not from the color of the wood, as is commonly supposed. Red oak is softer and more porous than white oak, and although it is considerably cheaper and has a grain that is almost as handsome, it will not wear so well.

In many cases, parquetry floors made up of what is known as *antique oak* are used with mahogany and other dark backings to produce a harmonious treatment. Antique oak is not the name of a variety of wood. It is nothing more than ordinary oak that has had its pores treated with a filler con-

taining umber or has been painted with a base or an alkali, such as potash or ammonia.

36. Mahogany.—Owing to its rich color, its beautiful grain, its durability, and, most of all, its ability to hold glue, **mahogany** is a most desirable wood for parquetry floors. *Cuban mahogany* and its highly figured relatives—*San Domingo* and *Honduras mahogany*—are excellent grades of this kind of wood. On account of their costliness, however, they are seldom used for parquetry floors. For this class of work the cheaper mahoganies obtained in sections of Central and South America are employed. These woods are made to undergo a vulcanizing treatment, which causes them to assume a chocolate tint that harmonizes well with the stained mahogany backgrounds that false economy has made somewhat common. Cheap varieties of mahogany treated in this manner, however, can scarcely be distinguished from high grades of mahogany, and, indeed, it is almost indistinguishable from vulcanized cherry. The cheaper woods are more easily affected by varying weather conditions than are the better grades, and, besides, they are more easily scratched and marred.

CONSTRUCTION, FINISHING, AND CARE OF PARQUETRY FLOORS

37. The actual work of constructing parquetry floors is usually left to a mechanic that is skilled in this particular line of work. The window trimmer, however, should possess some knowledge of the way in which this work is done, so that when he is called on to oversee the laying and finishing of parquetry floors he will be able to do so intelligently.

38. The first step in the construction of a parquetry floor is to see that it has a proper foundation. No matter whether the parquetry is to be placed on the floor of an old window or that of a new one, the floor must be made as level as possible; that is, any uneven surfaces must be dressed down. A satisfactory foundation floor for parquetry is one made of $\frac{7}{8}$ -inch matched tongued-and-grooved flooring of an inexpen-

sive grade. After the foundation floor has been properly prepared, it is covered with a layer of building paper. This paper should be laid so that no edges overlap. Two thicknesses of this paper in one place and only one thickness in another will cause an unevenness of the parquetry.

On top of the building paper are placed the blocks of parquetry that make up the design. Beginning with the border, these are securely nailed in place, small finishing nails being used for the purpose. In regard to nailing, it may be well to mention that each piece of wood used to make up a block is nailed to the foundation floor and that every nail is counter-sunk by means of a nail punch. For example, if a block were made up of four strips of wood, a nail would be placed near each end of each piece. Again, if a block consisted of two triangular pieces with a strip running diagonally through the center, eight nails would be used—one in each corner of each triangular piece and one in each end of the diagonal strip.

39. After the blocks of parquetry are securely nailed in place, they are carefully scraped with a steel implement known as a *veneer scraper* until the floor is absolutely smooth and level. If the job is an extra fine one, however, the floor

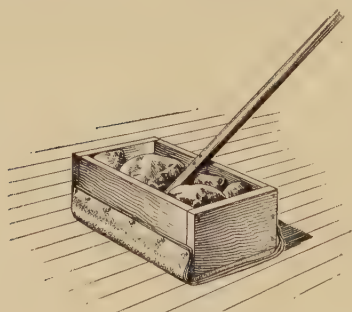


FIG. 22

is generally gone over again by hand with a cabinet scraper. The entire surface is next thoroughly sandpapered with No. 1½ sandpaper, after which it should be ready for the filler and the finishing coat. Sandpapering is sometimes done by hand and sometimes by means of a device like that shown in Fig. 22. This device consists of a weighted box, around the bottom of which are fastened about a half dozen sheets of sandpaper. The box is fitted with a handle, by which it is moved back and forth over the surface. Although a device of this kind saves time, the work done by it is not

usually so satisfactory as that done by hand. In hand sandpapering, a sheet of sandpaper is wrapped around a square cork block, which, in being moved about the floor, receives much more pressure, thus insuring better work.

40. The next step consists in giving the parquetry floor a coat of filler, of which there are many good makes in the market. After vigorously rubbing off the surplus filler with a piece of burlap, a very thin coat of shellac is applied to bring out the true tones of the filled floor. The shellac should be diluted with wood alcohol to almost the consistency of water. The entire floor is next carefully gone over, and each nail hole is puttied to match the wood. Before filling all the nail holes with putty, however, it is a good plan to put a dash of shellac over the first dozen holes puttied to see whether the putty still matches after the shellac has brought out its strong colors. Practically every inch of parquetry show-window flooring comes directly under the eye of the passer-by, and any slight variation of color not readily detected on an ordinary floor will be very noticeable in a show window, owing to the strong light thrown upon it; therefore, the putty used to fill up nail heads must be carefully matched to the wood.

After puttied, the floor is lightly sandpapered so as to take off the putty smudges and then dusted off with a broom covered with a soft cloth bag, as shown in Fig. 23. It is then ready for another coat of shellac. The shellac put on at this time is generally rubbed dull with sandpaper or steel wool. The third and fourth coats of shellac are practically necessary if a good grade of work is desired. These coats are also rubbed dull unless a shiny, varnished effect is desired, in which case no rubbing is done. The best effect is obtained, how-

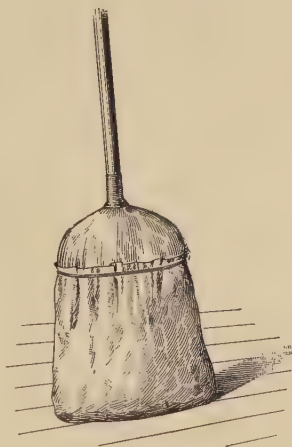


FIG. 23

ever, by rubbing the surface coat dull without cutting off too much of the shellac.

41. After the parquetry has been shellacked or treated with a prepared finish, it is carefully wiped off and then



FIG. 24

coated with floor wax. This wax is applied with a rag, being spread out thin in all directions. The wax is allowed to dry for about a half hour, after which the floor is rubbed—first with the grain and afterwards across the grain—with a weighted stiff brush

similar to that shown in Fig. 24. It is next rubbed with a piece of dry cloth, felt, or carpet, which is attached to a block of wood, as shown in Fig. 25. This operation gives a finishing gloss to the parquetry, and the floor is then ready for use.

42. In the finishing of hardwood floors, a great deal depends on whether the filler used for the wood is light or dark. Of course, both kinds are used; but for floors that are likely to receive heavy wear, fillers containing either umber or Vandyke brown are to be recommended. Such fillers have a tendency to disguise any surface dirt that might get into the floors when the protecting finish wears off; whereas, if light fillers are used, grime is liable to be ground into the floor and thus cause

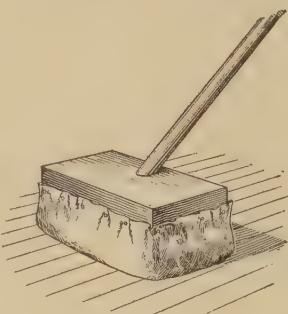


FIG. 25

a dirty patch that cannot be remedied without scraping the entire floor. The best plan, of course, is to keep the finish in good condition by using floor wax from time to time. Another advantage of dark fillers is that they bring out the

grain of the wood better. Dark filler fills the pores of the wood, but it does not stain the hard medullary rays, which show up much more silvery against a dark background.

43. Parquetry floors demand little attention if they are well finished. In sweeping them, a broom covered with a cloth, as shown in Fig. 23, should be employed; and, after sweeping them, it is well to brush them with a dry brush or to polish them with a piece of felt or carpet. Floors subjected to considerable wear should be waxed and polished about once a month in order to keep them looking clean and bright.

Sometimes, owing to hard usage or to an accident, the finish of a parquetry floor will break through, in which case it will be necessary to remove the wax, apply a new coat of shellac, and then a new coat of wax. The old wax can be removed by simply scrubbing the floor with cotton waste saturated with turpentine. This will remove the wax without loosening the shellac, because wax is soluble in turpentine and shellac is not. After removing the wax, the floor is sandpapered and a fresh coat of shellac is applied immediately. This coat will dry in about 40 minutes, after which a new coat of wax is applied and polished, making the floor as good as new.

WOOD CARPET

44. Besides the parquetry floors just described, use is frequently made of another style of parquetry known as **wood carpet**, an example of which, with a border, is shown in Fig. 26. Wood carpet is recommended if an inexpensive parquetry floor is desired, because it does not have to be nailed to the floor and can therefore be laid by any person of ordinary ability. As shown in the figure, the wood employed in wood carpet is in long strips instead of blocks and small strips, as in the other style of parquetry. These strips come in widths of $1\frac{1}{3}$, $1\frac{1}{2}$, and 2 inches, depending on the size of the carpet, and are $\frac{5}{16}$ inch thick. The carpet is formed by gluing the strips of wood to a foundation of

canvas or cotton cloth, the edges being left free. Wood carpet can be obtained from the manufacturers in widths varying from 8 to 36 inches, and when properly finished it will wear equally as well as regular parquetry. In addition

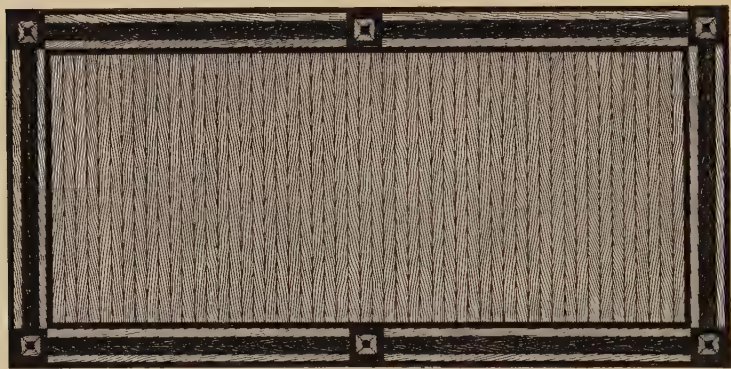


FIG. 26

to the style of border shown in Fig. 26, borders like those shown in Fig. 20 (*c*) and (*d*) will be found appropriate for wood carpet.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 1)

TEMPORARY BACKGROUNDS AND WINDOW SETTINGS

REMARKS

1. Although permanent backgrounds like those discussed in *Permanent Backgrounds and Parquetry Floors* are used considerably in the better class of mercantile establishments, displays that are constantly made in front of them have a tendency to become commonplace and ineffective. To keep up the efficiency of window displays, therefore, it is necessary from time to time to make use of **temporary backgrounds**, or *decorative backgrounds*, as they are sometimes called, and **window settings**.

Temporary backgrounds and window settings can of course be employed with good results at almost any time, but they are especially effective at the opening of seasons and at the time of special events, such as conventions of organizations, horse and automobile shows, and the like. Holidays, birthdays of famous persons, as well as special sales and special lines of merchandise, also give the trimmer an opportunity to arrange special backgrounds or window settings that will serve to call attention to the merchandise offered for sale.

Many indeed are the materials and devices that can be used for decorative backgrounds and settings. Real and artificial flowers and foliage may either be intertwined on

trellises of latticework or formed into garlands. Painted curtains, draperies, and tapestries; flags, shields, and bunting; pillars, columns, and arches embellished with papier-mâché ornaments and moldings; heads of animals, statuary, and furniture—all these and many more decorative elements are available for building up suitable and effective backgrounds and window settings for the line of merchandise to be displayed.

2. It is the intention, in this Section, to show examples of temporary backgrounds and window settings suitable for various purposes and also to explain how they are formed. Of course, a window setting or a background for every known purpose is not shown, but the examples are sufficient to give the beginner a good idea of what can be done, and they should help him to work out ideas of his own. The details in regard to the making of artificial flowers, papier-mâché ornaments, plaits and festoons, the painting of scenery, and other things that enter into the construction of permanent backgrounds and settings will, however, be considered separately in other Sections.

EXAMPLES OF BACKGROUNDS AND SETTINGS FOR GENERAL USE

3. In Fig. 1 is shown an excellent temporary background in front of which high-class costumes, millinery, and similar lines of women's wear can be displayed to advantage. It is placed in a show window fitted with a permanent background having mirror panels at the sides and back and art-glass panels in the upper space at the back. The temporary background consists of a wooden framework covered with cream-colored felt that is decorated with papier-mâché, or composition, moldings and scrolls and two attractive panels of figured, pale-green silk. All the composition moldings are painted an ivory tint and touched with gold. This temporary background stands about 1 foot in front of the regular mirror background and rests on a floor covering of the same material as is used to cover the framework. In the arch-



FIG. 1

way hangs a neat festoon drape of green satin, and in the opening is a French conservatory entrance door finished to harmonize with the woodwork of the show window. Through the open door can be seen an artificial vine of Wistaria, which, of course, is fastened to the permanent background before the temporary one is put in place. In addition to the special background, a neat French curtain is strung around the sides and back near the ceiling of the window.

Fig. 2 will serve to give a good idea of the construction of the framework required for this temporary background. It

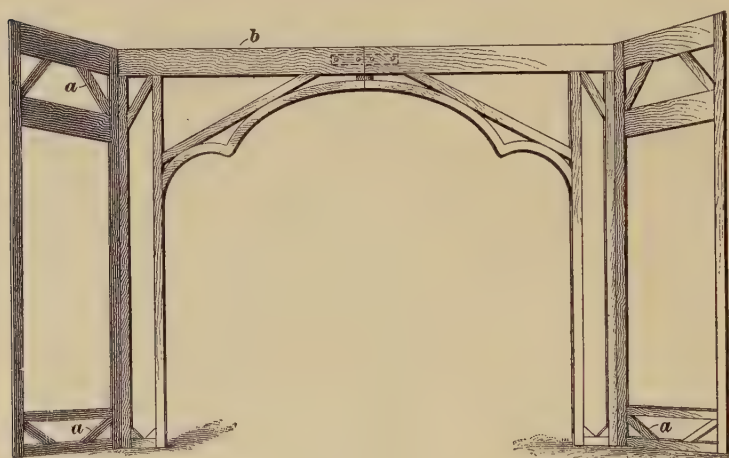


FIG. 2

is made of 3-inch and 6-inch strips of $\frac{7}{8}$ -inch lumber, which are nailed together and securely braced, as shown at *a*. The wide strips *b* are placed at the top, because it is to them that the large composition ornaments and molding are fastened after the framework is covered. The strip used to form the arch is in the shape of a half circle and two quarter circles, and can be obtained from a regular wood-working mill or can be sawed out of regular $\frac{7}{8}$ -inch stock with a compass saw. This strip, as well as the large wide strip at the top, is in two sections, being fastened together in the manner indicated in the figure. The French door and its support are special, and must be secured from a wood-working establishment.

Such doors can be used either with or without glass. By a close study of both the finished backing and the framework the beginner should be able to form a good idea of how a temporary backing of this kind can be made.

If it is desired to produce a less expensive background than the one just described, unbleached sheeting can be tacked on the framework and then painted with alabastine or any of the many kinds of water paint. Such paint comes in all colors and tints, and can be purchased at any decorative supply store. Also, instead of using composition ornaments and moldings, the covering can be decorated with stencil panels and borders, which will be described later.

4. Fig. 3 illustrates a temporary background suitable for a display of men's or women's suits, millinery, shoes, or haberdashery for spring wear. This ornamental backing consists of two massive columns resting on bases and capped with slabs, over which are laid crosspieces spaced about 6 inches apart, creating a pergola effect; an art panel connecting the two columns; and a garden seat placed in front of the left column. These parts are framed out of wood and then covered with white felt, which gives the background the appearance of a massive marble structure in plain, straight lines. The long art panel that connects the columns consists of figures representing spring. These are cut out of white felt and then mounted on pink silk that covers the framework. Behind these figures are electric lights, which, when turned on, illuminate the panel and make it very attractive. Resting on extensions at the sides of the columns are two more figures cut out of white felt. They are mounted on cardboard for support and have the appearance of statuary. Besides this ornamentation, two large bouquets of roses rest in vases placed on the box pedestal of the garden seat, and garlands of pink and white roses and green foliage are arranged with careless grace on all members of the background. These flowers and foliage, together with the box tree near the right column, give an effect that is exceedingly artistic and in harmony with the season.

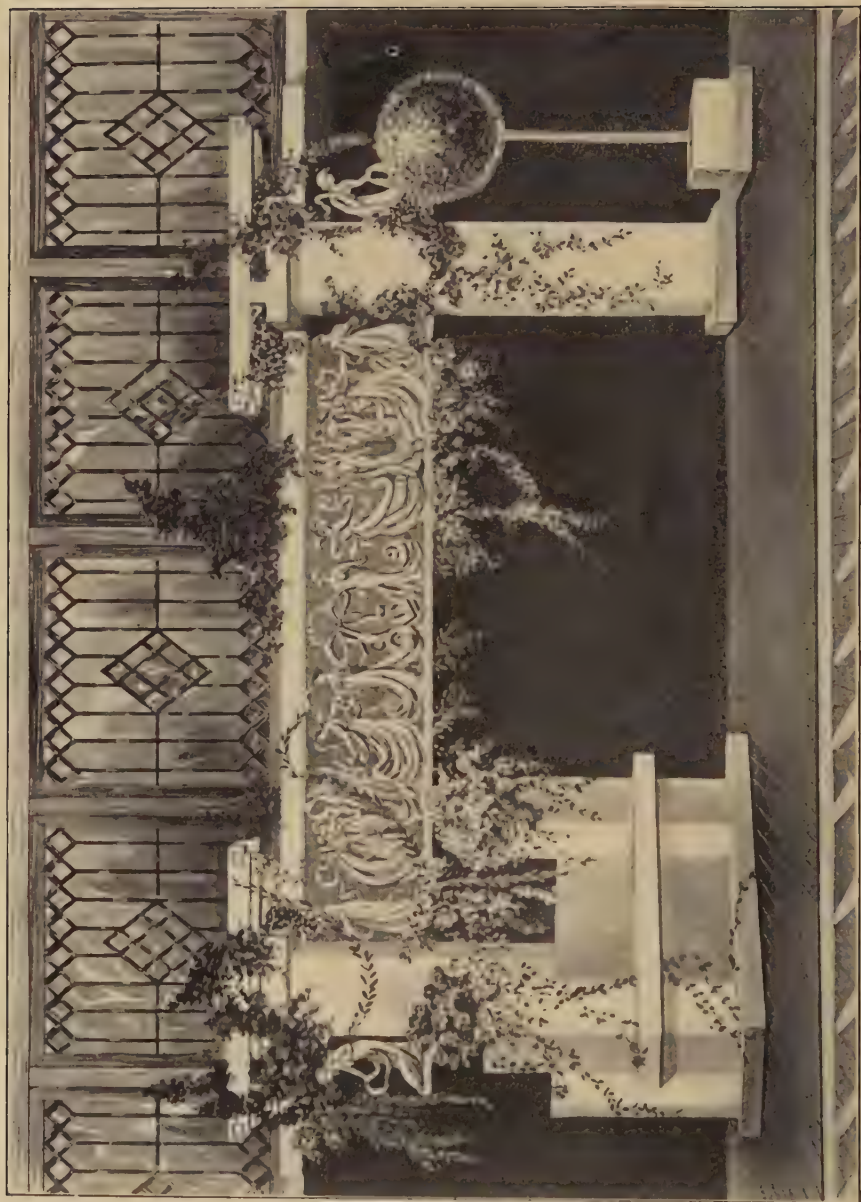


FIG. 3

An idea of how the framework for this background is constructed can be formed from Fig. 4. As shown at *a*, the two pillars are framed out of strips of $\frac{7}{8}$ -inch lumber and securely braced. The frame for the art panel is box-shaped, as shown at *b*, and is held in place by nailing it to the inside strips of the column framework. The electric lights are placed all the way around the inside of this box, being spaced about 6 inches apart. At *c*, *d*, and *e* are shown some of the parts used for the garden seat. As will be observed on referring to Fig. 3, the two square boxes *c* are placed on a wooden base; the frame *d* is then laid on these boxes and on top of

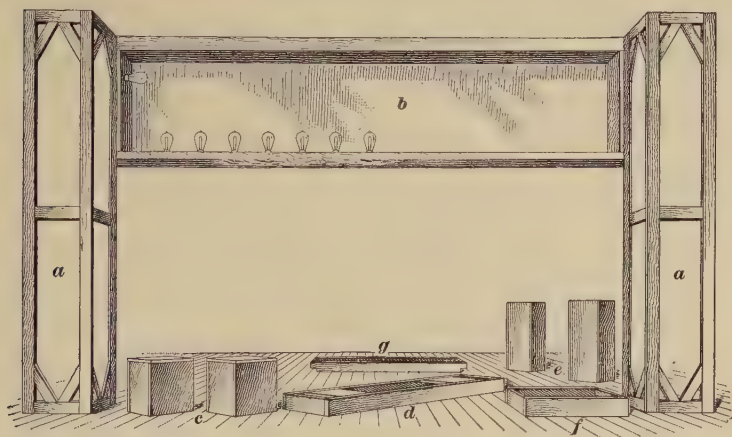


FIG. 4

it are placed the two box pedestals *e* on which the vases of flowers are stood. The side and the back of the seat are simply made up of frames, which are nailed to the boxes and pedestals. The parts used for the bases and caps of the columns are formed as shown at *f*, and the crosspieces are shaped as shown at *g*.

All the parts of this framework are covered with felt before it is put together. In covering, care must be taken to have the felt smooth and without wrinkles. Instead of turning under the surplus goods in forming corners, it is advisable to cut out this extra material and then bring the edges

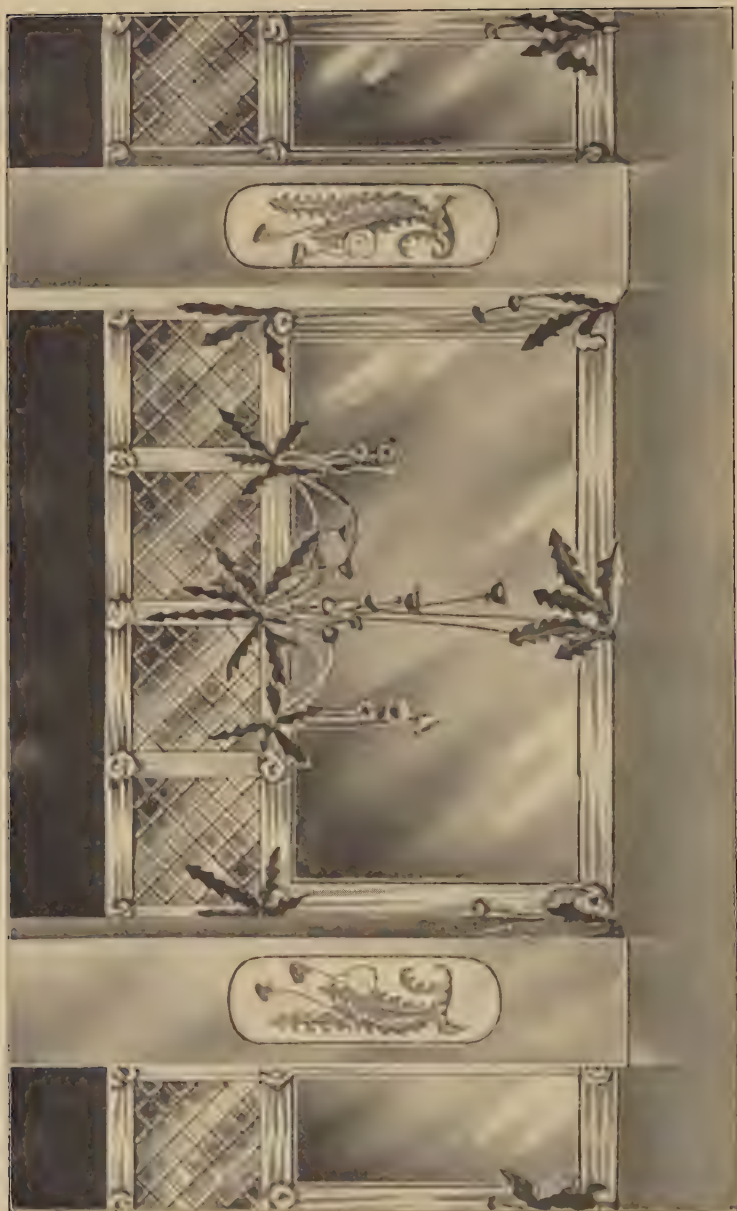


FIG. 5

together and sew them securely. The amount of goods to be cut out for corners can be determined by laying the object that is to be covered on a piece of felt of the proper size, and then, by means of a straightedge, drawing lines from each side and end of the object to each side and end of the goods. In all cases, allowance should be made for sewing.

In cutting out designs of figures to be used in art panels of the kind used in this backing, the felt should first be drawn smoothly over a flat surface and secured there. Next, the design should be neatly traced on the felt and then cut out with a sharp knife. A few extra slight cuts, especially in the folds of the skirts of the design, will serve to give detail and finishing touches to the panel after it is mounted on the silk. Ideas for designs may be obtained from posters, wall-paper borders, etc.

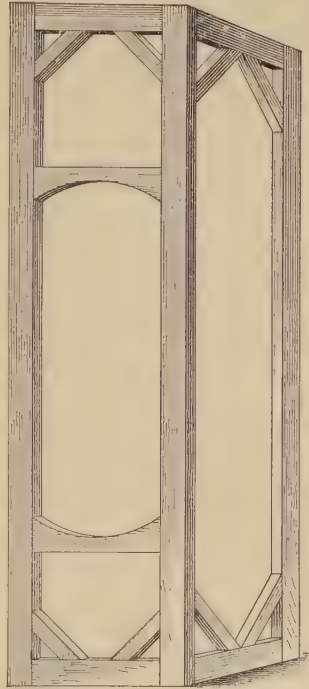


FIG. 6

5. Fig. 5 shows another ornamental background suitable for trims of women's suits and millinery and men's clothing, haberdashery, and shoes. This backing differs from the examples already shown in that it is inexpensive and that the decorations are placed directly on the permanent background of the show window. In this decorative backing, the frames of the mirrors and art-glass panels are covered with Nile-green material, which may be silk, satin, or cheesecloth, and on top of this covering are placed strips of white net gathered into loose plaits. In addition, conventional, artificial dandelions are tastefully arranged on the frames of the mirrors. These flowers and the green coloring that shows through the net covering make an appearance

that is both striking and satisfying. The pillars that support the building and divide the permanent background are enclosed in a boxlike framework of light strips constructed in the manner illustrated in Fig. 6. This framework is covered with a harmonizing shade of green felt, and on each of these false pillars, as shown, is mounted an art panel of white satin, on which are painted conventional dandelion flowers and leaves, to correspond with those on the mirror frames. The floor, too, is covered with material that harmonizes well with the decorative background.

In order to paint on satin, it is necessary first to draw the material tightly over a frame. The design is then sketched and a body coat or backing of white lead mixed with benzine or gasoline is painted on the goods. Shellac also can be used for the same purpose. After the body coat is dry, the design is painted in oil colors. Care should always be taken not to allow the oil paints to overlap the edge of the body coat, because they will spread on the material and thus make an unsightly oil line around the design.

6. Fig. 7 illustrates what may be called a combination ornamental background and window display. It consists of an artistic arrangement of summer novelty fabrics arranged in front of a permanent background ornamented with artificial vines. The mirror frames are covered with lavender silk to match the dress goods on display, and over the silk is placed loosely plaited soft material. The dress goods is arranged in two drapes. One drape is made over a tall stand with a diamond-shaped top located in the center of the display and two tall cross-rod stands—one in each corner—and the other drape is made on a mummy draping form. The large bunch of vines is suspended from a temporary electric fixture of excellent design—not shown in the figure—and parts of it are made to twine around the dress goods. The other vines, in the form of sprigs, are tastefully placed here and there on the covered frames. The mirror and art-glass panels, together with the decorations, make a very appropriate backing for the lavender dress goods. A care-

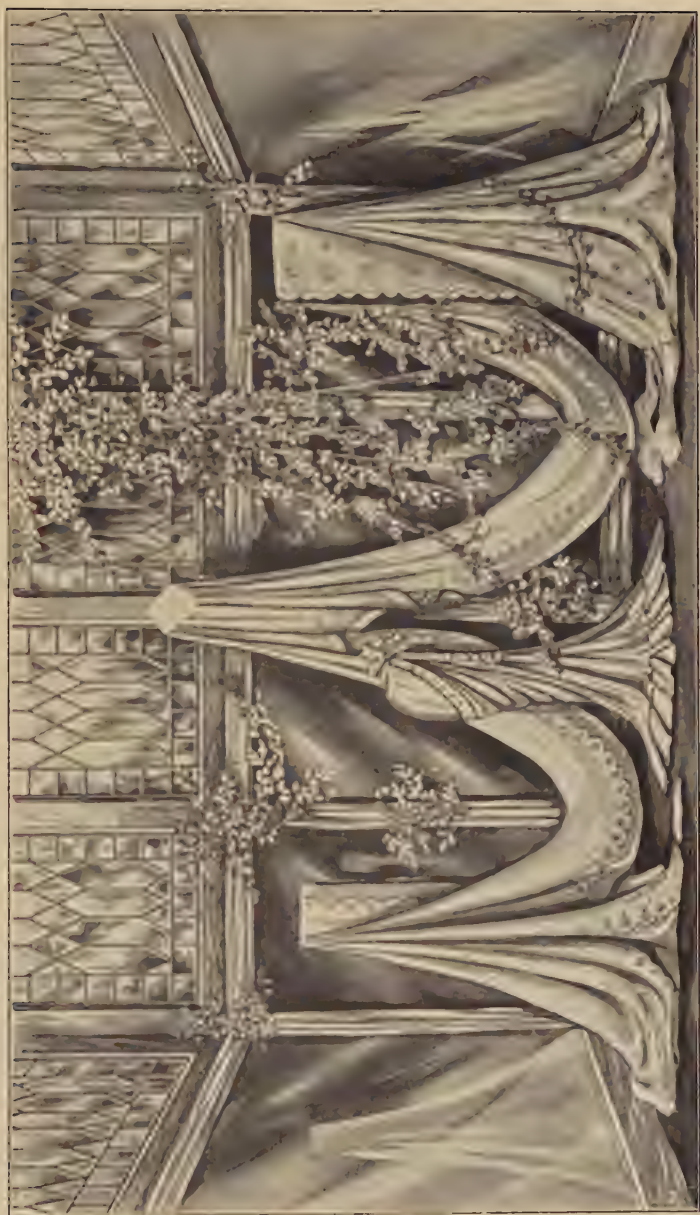


FIG. 7



Fig. 8



ful study of the details of this display should suggest many other ideas along the same simple lines that can be carried out without any difficulty.

7. In Fig. 8 is shown an excellent temporary background consisting of French curtains of pale-blue silk and three French mirrors with elaborate gold frames arranged in front of the lower panels of a permanent background. The curtains are suspended from rings strung on dull-brass curtain poles attached to the window backing. The tall mirror rests on the floor, and the other two are hung from the rear curtain rod. On each side of the frames of the small mirrors are frosted electric-light bulbs supported by burnished-brass brackets, making a pretty effect. In addition to the ornamental background, there is a smooth floor covering of gray felt. The entire window is refined in appearance and is suitable for high-grade displays. The aspect of this background could be easily changed by replacing the mirrors with marble busts resting on pedestals. Another plan would be to use pedestals on which are placed baskets of artificial flowers with large bows of ribbon of a harmonizing color.

In front of this temporary background is shown a neat display of men's evening wear, although it is equally suitable for trims of millinery, women's costumes or waists, men's haberdashery, and similar lines of merchandise. In the display shown, all the fixtures are of brushed brass and the furniture of burnished gold, which harmonizes well with the surroundings. The merchandise is well arranged, but a detailed description of the display will not be given here, the main object being to illustrate how a display of high-grade goods will appear in front of such a background.

8. In Fig. 9 is shown a commendable temporary background suitable for displays of women's wear in which tapestry plays a prominent part. The tapestry, which is green and brown in color and shows an Oriental scene, is hung in front of a panel of a permanent background finished in mahogany. About 1 foot in front of the tapestry is placed a 7-foot framework arch and two box-like columns con-

structed of $3'' \times \frac{7}{8}''$ strips of wood, as shown in detail in Fig. 10. This framework is covered with cream felt formed into panels on the columns and is ornamented with papier-mâché figures, ornaments, and moldings finished in dark bronze. From the arch are hung rich-red plush draperies, which harmonize pleasantly with the tapestry panel. To add to the attractiveness of the backing, a dark-bronze art lamp is placed near the right-hand column, and the floor is covered with cream-colored felt.

9. Fig. 11 shows a temporary background consisting of tapestry panels and an appropriate overdrape. The two pieces of tapestry, which depict spring scenes, are hung in front of the lower part of a permanent background. Over the top of each piece is hung a lambrequin of seal-brown velour ornamented with $1\frac{1}{2}$ -inch gold braid, and at the sides are neat draperies

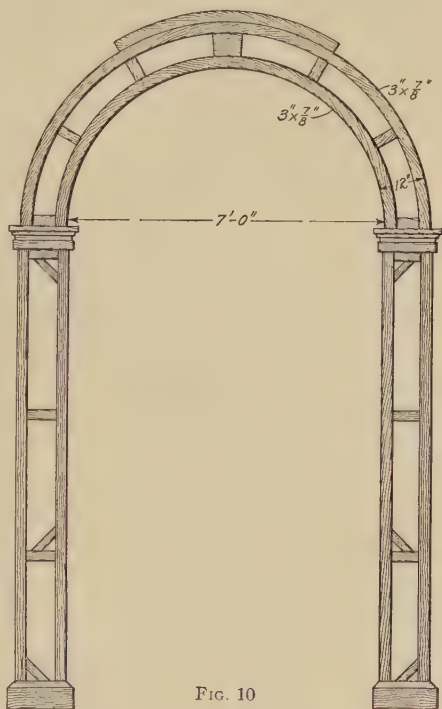


FIG. 10

of tan plush and panels of the same materials as are used in the lambrequins. The lambrequins and draperies are suspended from strips of wood attached to the top of the permanent-background cornice, and the panels at the sides and the center of the two tapestry panels are made on framework of the proper size. At the top of each velour panel are arranged half-round folds of velour and braid, and, in addition, an artistic canopy is placed over the central panel.

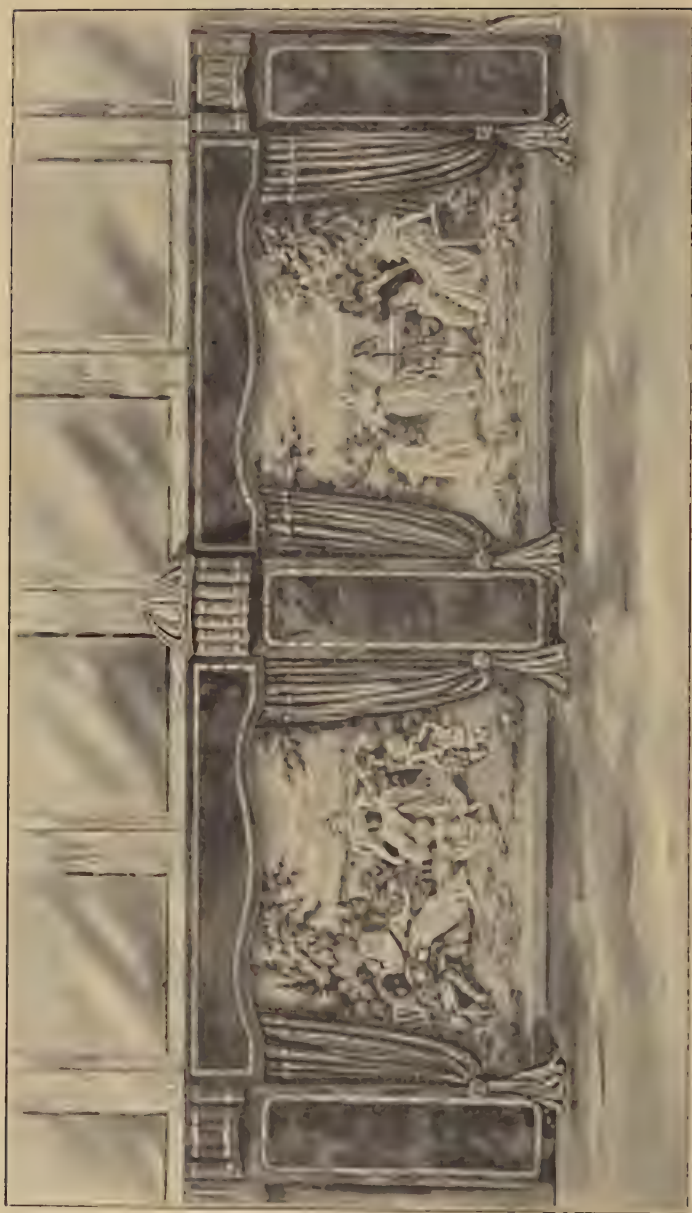


FIG. 11

This canopy consists of a framework of wood constructed in the manner shown in Fig. 12 (a) and a covering of shell-pink silk. Electric lights are arranged on the upright strips, as shown, and at night, when lighted, they make a decidedly pleasant effect. If it is desired not to illuminate the canopy, a good effect can be obtained by covering the framework with sheeting and then painting this covering with glue size and water paint or covering it with Dutch metal on a thin glue size. The half-round folds of velour and braid

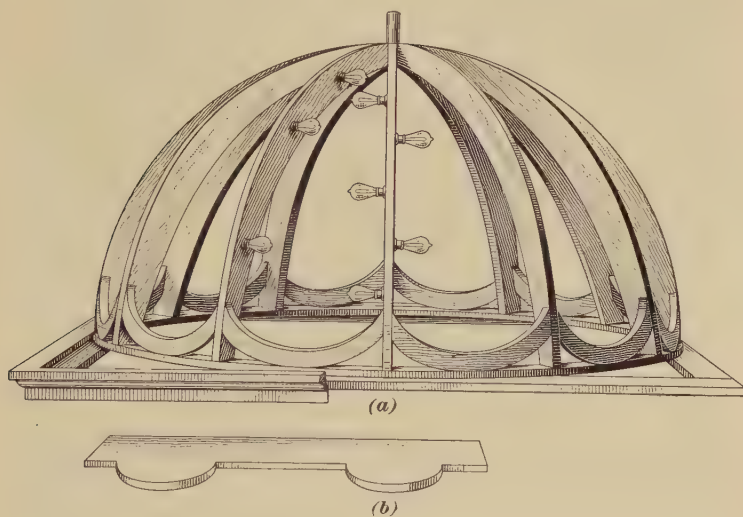


FIG. 12

at the sides of this ornamental background are formed on strips of wood shaped as shown in Fig. 12 (b), and those in the center are made on strips with several half circles placed close together. The velour, to which the braid is fastened, is simply tacked on the wooden strips, which are fastened to the framework of the panels, and allowed to hang down. The floor covering in front of the background is a green silk velour, which harmonizes well with the backing and thus makes it appropriate for displays of men's or women's wear for spring.



FIG. 13

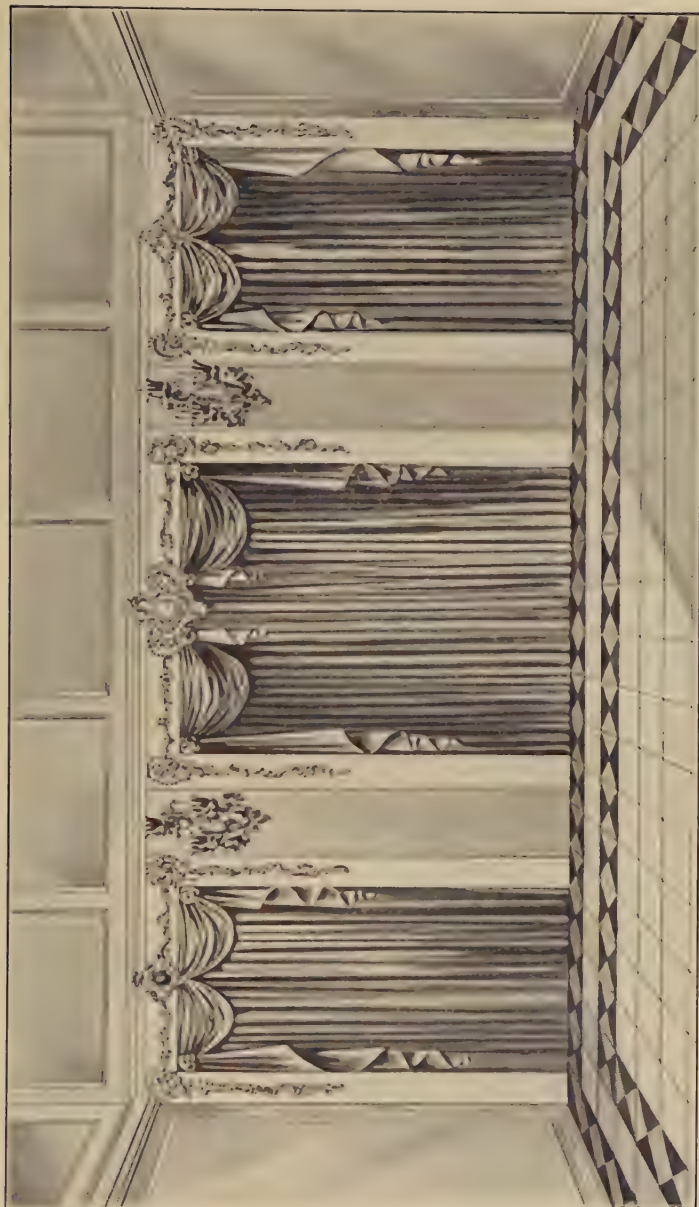


FIG. 14

10. Fig. 13 shows an artistic temporary background in the form of a Grecian marble structure ornamented with draperies, relief decorations, and artificial flowers. It is placed in a show window fitted with a permanent mahogany background and a floor covering of pearl-gray felt, and is suitable for displays of high-class costumes and millinery and men's clothing. The two box-like columns, as well as the box-shaped cornice that they support, are framed out of strips of wood and covered with pearl-gray felt, which gives them the appearance of marble. In the center of the structure, toward the rear, is an art panel in pastel showing a beautiful ocean scene. This picture is placed in an oak frame, to which a copper effect is given. At the sides of it are neat drapes of violet velour, and above it, strung underneath the cornice, is a gold-fringed violet curtain with cords and tassels of a deeper shade of violet. In the center of the cornice is placed a large papier-mâché ornament and a cluster of Kentia, or palm, leaves. From this ornament to a papier-mâché bracket candelabrum attached to each pillar is strung a festoon of artificial roses and foliage. This festoon, together with the relief ornaments and Kentia leaves, which are finished in rich gold bronze applied over varnish size, set off the covered framework and the violet draperies very well, causing this ornamental background to be decidedly impressive.

11. Fig. 14 shows an easily constructed temporary background that is suitable for displays of men's or women's wear. It consists of a framework of $\frac{7}{8}$ -inch boards arranged so as to form three openings, and is placed in front of the rear mirror panels of a permanent background. The framework is covered with sheeting, which is painted with cream-colored murasco or some other cold-water paint and ornamented with relief decorations made of papier mâché. These ornaments, which extend across the tops of the openings and part way down the sides, are fastened to the covered framework with glue and small finishing nails. They, too, are painted with cream-colored cold-water paint, and, in addition, are highlighted with gold bronze. In the openings are hung neat

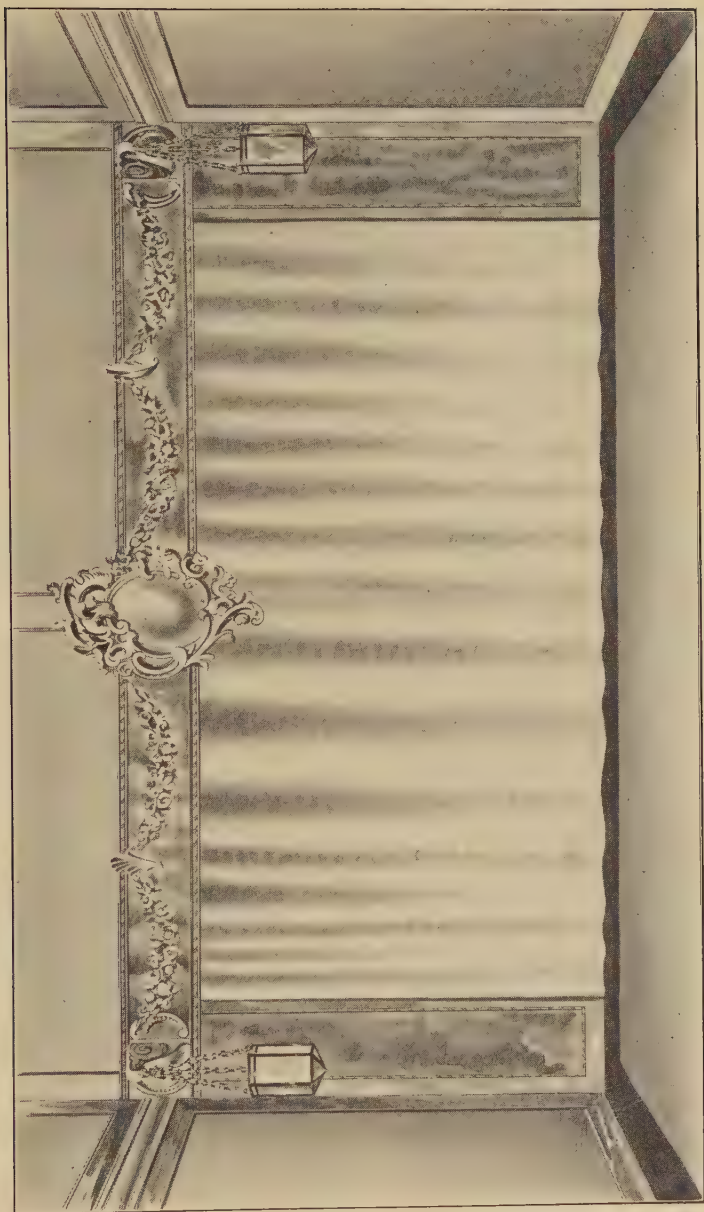


FIG. 15



FIG. 16

curtains and festoon drapes of reseda-green satin, and on the wall space between the openings are placed papier-mâché candelabra finished in the same manner as the relief ornaments.

If desired, the draperies could be dispensed with in a background of this kind, as the ornamented framework would be set off well by the mirrors. Also, instead of covering the framework with sheeting and then painting with water paint, a good effect could be obtained by simply using sateen as a covering. The sides of the permanent background could be treated in the same manner as the back if a more elaborate background is wanted.

12. In Fig. 15 is shown another simple decorative background that is suitable for displays of men's or women's wear. Two frames covered with muslin and painted with light-green water paint support a cornice that is treated in the same manner. The decorative features consist of a large papier-mâché centerpiece with a double floral drape extending from the center to an art hanging lamp attached to each column panel. In addition, a $1\frac{1}{2}$ -inch composition or papier-mâché molding is used to give a neat finish to the edges of the design. This molding, as well as the relief ornaments and art lamps, is finished in gold bronze, making a fine appearance against the light-green ground. In the space formed by the framework hangs a green silk-velour curtain, though any soft material of a harmonizing color that will hang in even folds could be used. This curtain is suspended from the cornice of the permanent background, the framework of the ornamental background being placed about 6 inches in front of it so as to allow this to be done.

13. Fig. 16 illustrates part of a panel-and-cornice background finished in the rococo style of decoration. It is arranged in front of a permanent background having high wooden panels, and is appropriate for displays of millinery, as shown. The posts of this ornamental backing are made of wood covered with cream-colored felt and decorated with composition moldings and ornaments, glass globes being



FIG. 17

used as caps. Between the posts is a wooden framework that is treated in the same manner as the posts, with the addition of panels of art glass capped with a rococo scroll. At the top of the panels of the permanent background are placed festoon drapes of figured cream-and-gold silk, which harmonize well with the built-up background, the ornamental scrolls and moldings of which are finished in ivory touched with gold. Besides art glass, effective use can be made of cathedral glass, plate glass, or mirrors in ornamental backgrounds of this style.

EXAMPLES OF BACKGROUNDS AND SETTINGS FOR SPECIAL OCCASIONS

14. Birthday of Robert Burns.—In Fig. 17 is shown an attractive window setting or display that can be used to advantage on the anniversary of the Scotch poet Robert Burns, which falls on the 25th of January. The background, which is in the form of a painted curtain, shows a typical Scottish landscape with hills and houses in the distance and a lake and trees in the foreground. The floor is covered with green artificial moss, which is made to rise gradually toward the curtain and thus appear to be a part of the painted scene. Palms placed in the rear corners of the show window are also used to make the scene appear realistic. The main feature of the display, however, consists of several wax figures dressed in Highland costumes representative of some of the favorite clans. These are gracefully posed around a bronze statue of Burns, which rests on a pedestal draped with silk plush. No goods other than the costumes on the figures can be shown effectively in a window trimmed in this manner. When such displays are used, however, they assist in calling attention to other displays in windows at the sides. This anniversary display should help the trimmer to form ideas for birthday displays suitable for other famous men.

15. Spring Opening.—An excellent scenic background and window setting suitable for a spring opening is shown in Fig. 18. As it stands, this setting would be considered

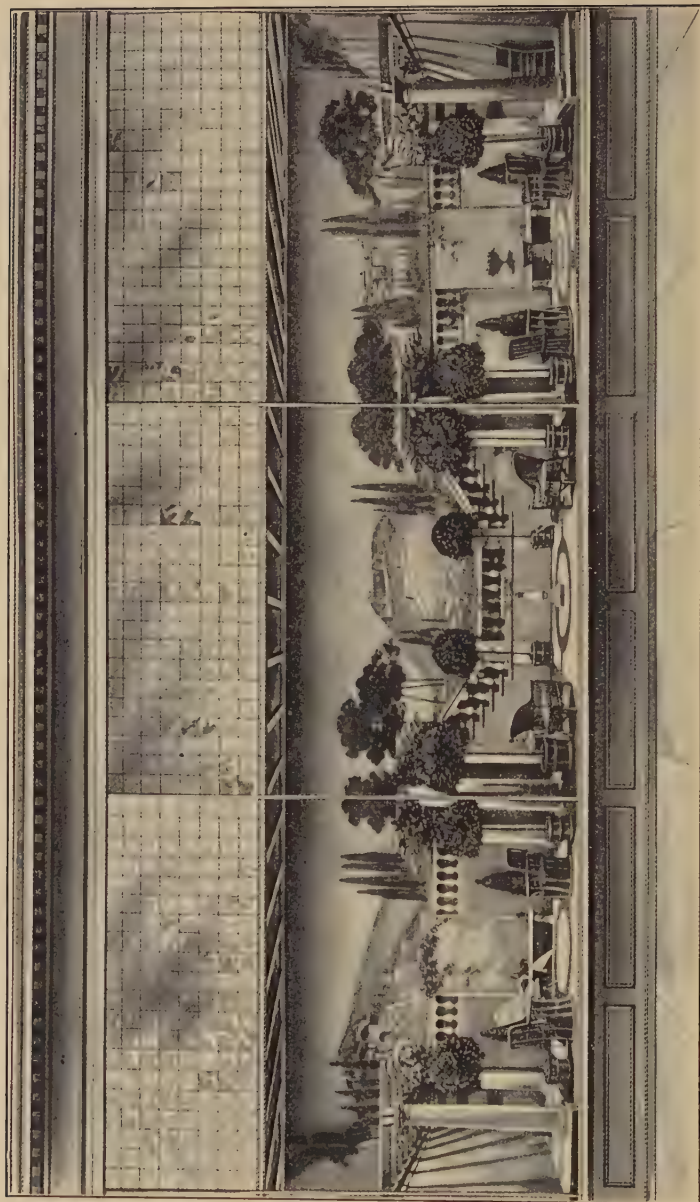


FIG. 18

as a good display of outdoor furniture for some exclusive furniture house, but by a slight rearrangement of the chairs it would make an ideal setting for displays of women's or children's spring costumes, or men's or boys' clothing with all the necessary outdoor accessories. If it is to be utilized for displaying wearing apparel, the furniture can be made to serve as fixtures for some of the garments, or wax figures fully dressed can be placed in the chairs and on the garden seats and stood in other places, making the display appear like a garden party. Other ways in which this setting may be utilized should suggest themselves to the window trimmer.

As is the case with the other examples of ornamental backgrounds, this setting and background is placed in a show window fitted with a permanent background. At the back of the window is fastened a painted drop curtain showing a view of the Italian city of Naples with its beautiful spring sky of light bluish-gray blending into a subdued-sunlight blue. The buildings and the scene in general are worked out in shades of cool, soft gray, and the roofs of the building in terra cotta. Close to this curtain is placed a framework that is covered with gray felt so as to give it the appearance of a solid wall and a stairway. Along the top of the wall and the imitation stairway is a balustrade, which serves to give an artistic effect to the entire setting. The balusters, railing, and moldings that go to form the balustrade are covered with a preparation known as *velvelette*. This preparation has the appearance of felt when applied, and can be used to cover surfaces that are difficult to cover with regular felt. It is applied by first painting a surface with ordinary oil paint mixed with a small portion of varnish and then sprinkling the velvete over the painted surface and allowing it to dry. When dry, all surplus velvete is brushed off and gathered in a sheet of paper, because it can be used again if kept perfectly clean.

At each side of the show window is a continuation of the wall and a pergola, and two more pergolas divide the window space into three parts. The walls and the pergolas are framed out of wood and are covered in the same manner as



FIG. 19



FIG. 21

the wall, stairway, and balustrade. The floor has a covering of felt colored with dry colors to represent marble, and on it are placed the garden seats, chairs, and other articles of furniture. In addition, several boxwood trees are well placed, and in the central space is located a fountain. These features, together with the artificial foliage on the pergolas and drooping over the rear wall, give a beautiful springtime effect to the entire background and setting.

16. St. Valentine's Day.—In Fig. 19 is shown a background that may be considered as part of a display of valentines, such as would be made at the time of St. Valentine's day, which falls on the 14th of February. The foundation of the background consists of frames of light wood covered with red sateen, and stands in front of the permanent background of a show window. Panels are formed on the red covering by means of white ribbon of several widths, on which are pasted small heart-shaped cards. The large central panel contains a painting of Cupid fanning two hearts into flame, and at the top of this panel is placed a neat scroll design, which serves to break up the straight lines of the framework. In the panel at each side of the central one is a picture of Cupid shooting an arrow. Above it, on the corners of the temporary-background framework, are placed two hearts pierced with an arrow and Cupid shooting arrows in various directions. These designs, as well as the large hearts and arrows in the side panels, are cut out of cardboard. In all the other spaces are fastened valentines of various kinds, making a background that is bound to attract. The remainder of the display consists of artistic valentines arranged on the floor, which is covered with white material, such as silkoline.

17. Easter Holidays.—Fig. 20 shows an attractive window setting for an Easter display. Almost any kind of merchandise can be displayed in connection with it, but it is particularly suitable for displays of women's Easter suits, dresses, or millinery, and men's suits or haberdashery. This setting consists simply of two white papier-mâché rabbits



FIG. 21

resting on a raised platform, over and around which is puffed a neat floor covering of green silk velour. The rabbits are surrounded by potted palms and Easter lilies, making a most artistic central feature for an Easter display.

18. A combination background and window setting for an Easter or a spring-opening display of women's wear is illustrated in Fig. 21. At the rear, hanging in front of the mirror panels of a permanent background, is a painted drop curtain showing a harbor scene with mountains in the distance. In front of this curtain is a pretty garden spot separated from the background by a balustrade formed out of wood covered with velveteen to give it the appearance of stone. The garden scene is made realistic by a fountain in action; a plot of artificial grass surrounded and divided by walks; an artistic wooden settee; a jar of roses, which may be real or artificial; and a number of palms, which are placed along the sides of the window space and behind the balustrade and the settee. The fountain, which stands in the center of the garden spot, contains three stock papier-mâché cupids supported by the stems of the water lilies. These stems are made of twisted gas pipe and the lily leaves and flowers are cut out of tin, the pipes and the leaves being painted green and the petals of the flowers white tinted with pink to give them the natural water-lily shade. The pipes are connected with regular water pipes underneath the show-window floor, and through them come sprays of water that fall over the cupids and water lilies into the basin, which is fitted with a waste pipe. Besides this novel feature, use is made of stuffed doves. These are perched on the edge of the fountain basin and the edge of the balustrade; also, one dove in the act of flying is suspended from the ceiling by means of black thread. Everything considered, this window setting and background is decidedly effective, and should be the means of attracting considerable attention.

19. Patriotic Occasions.—Figs. 22 and 23 show two permanent backgrounds decorated in a manner that makes them suitable for displays of men's or women's wear to be



FIG. 22

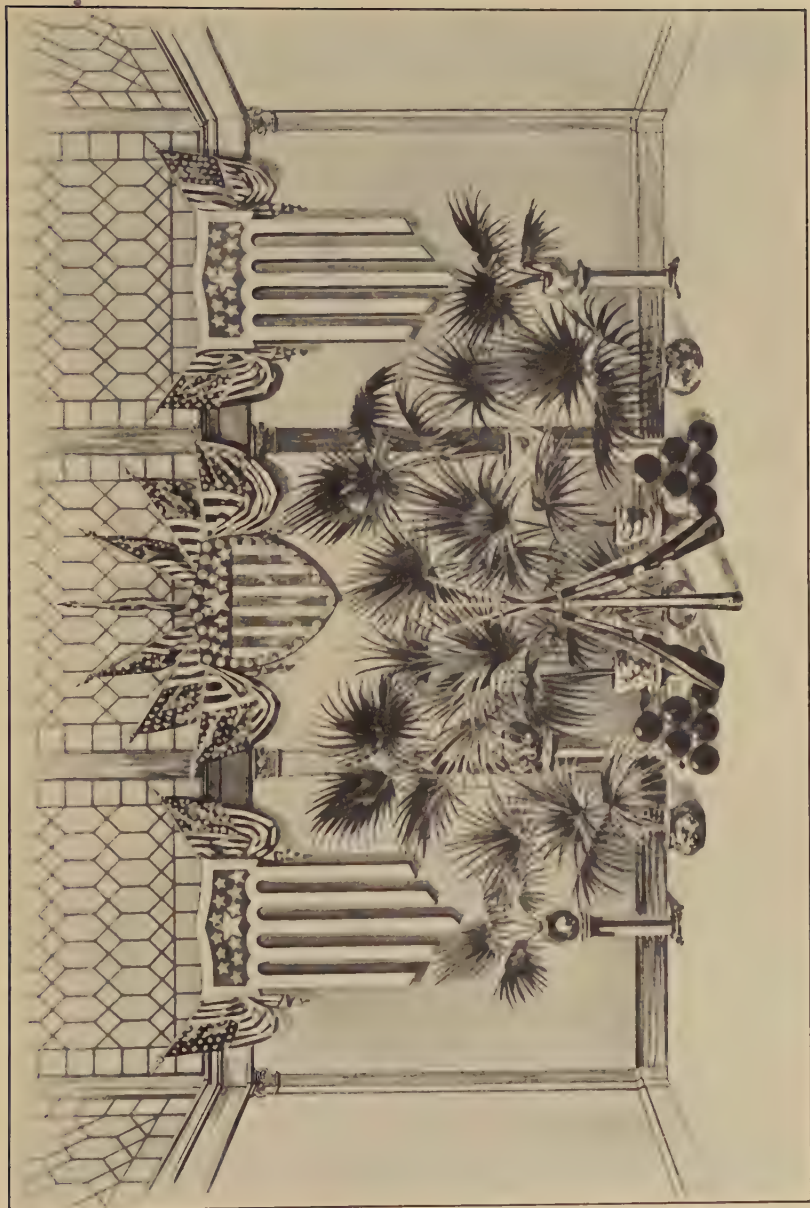


Fig. 23



FIG. 24

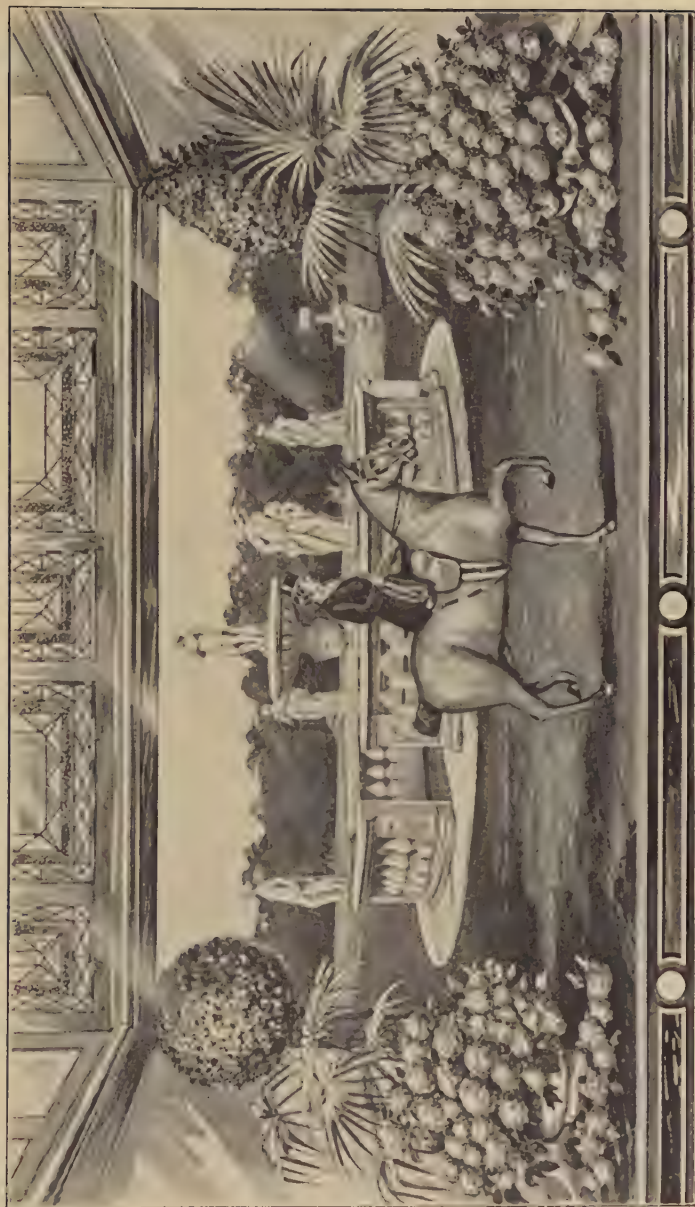


FIG. 25

made at the time of Washington's Birthday, Lincoln's Birthday, Memorial Day, Fourth of July, etc.

In Fig. 22 a large shield of handsome design surrounded by a circle of electric lights is hung in front of the rear central panel of the background. Perched on top of the shield is a gilded papier-mâché eagle, which holds in its beak the central part of a festoon drape of red silk. This material is carried in graceful folds to each corner of the window, where it is fastened to the back of two small shields draped with small flags and allowed to drop down. Besides the ornamental background, this window contains two potted palms resting on glass shelves supported by wooden pedestals.

In Fig. 23, both the background and the floor are ornamented. Over the central panel at the rear is hung a flag-draped shield fitted with electric lights having frosted globes, and over the side panels are hung two more shields draped with flags. The shields at the sides are of odd design, being made out of pieces of $3'' \times \frac{7}{8}''$ wood, which are nailed together and painted the desired colors. The floor setting consists of a half circle of potted palms, which rest on the floor and on pedestals, and several rifles and cannon balls stacked on the floor in front of the palms. The entire display is effective and suitable for any patriotic holiday or occasion.

20. Horse Shows.—Fig. 24 illustrates an ornamental background in front of which a display of any line of outer wearing apparel can be displayed to advantage during the time that a horse show is in progress. This background is a simple one to arrange. In front of the upper central panel of the permanent background is hung a large horseshoe and horsehead made of papier mâché and finished in ivory tints, and at each side of the window space is a trellis made of narrow strips of soft pine that is afterwards tinted green. On these trellises are tastefully arranged artificial vines of grapes and foliage, which are also festooned from the upper corner of each trellis and brought around the horsehead at the center.

21. Fig. 25 shows a most artistic temporary background and window setting for a horse-show window. The back-

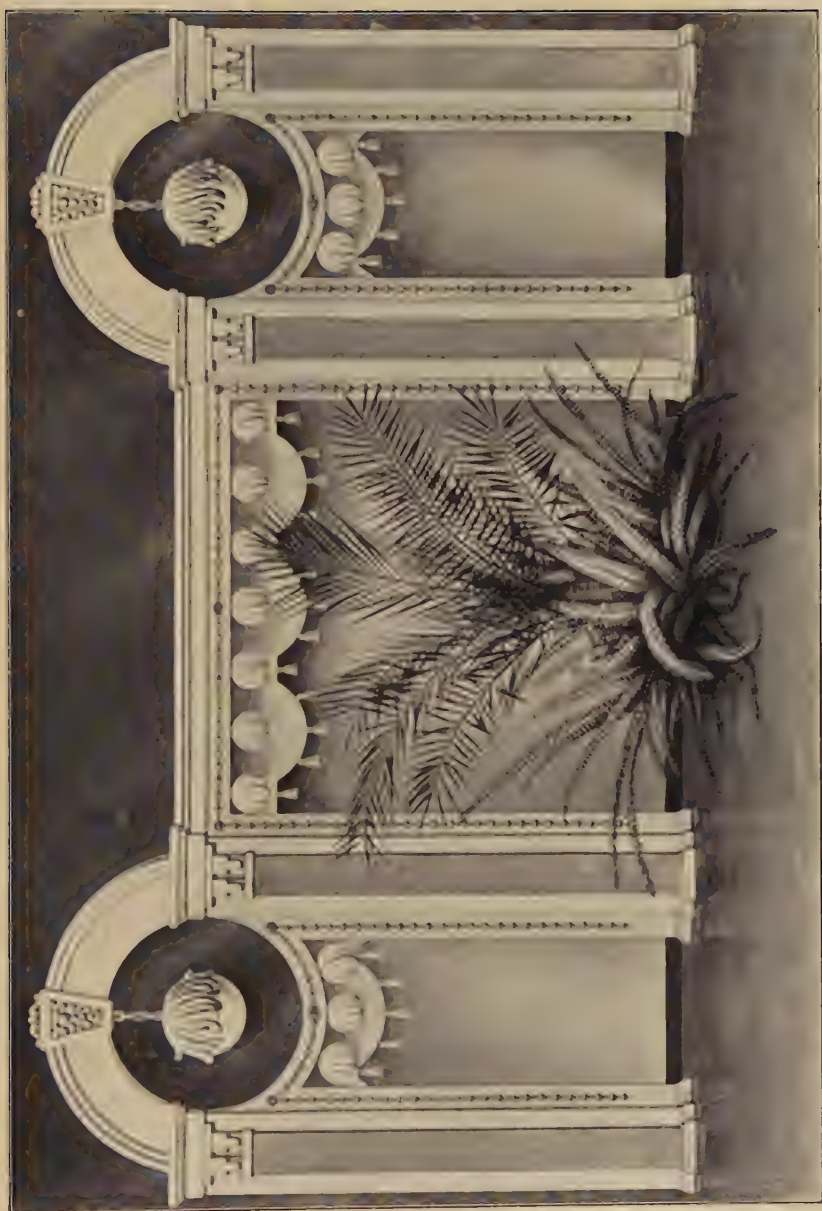


FIG. 26

ground consists of a painted drop curtain showing a large garden scene with a fountain and statuary in the foreground and heavy woodland in the distance. In front of this curtain, on a floor covering of green carpet, is a horse of the kind ordinarily used as a harness model, on which is posed a wax figure properly dressed in a riding habit. At each side of the show window are placed large clusters of chrysanthemums and palms, behind which is stood a large boxwood tree. These flowers and foliage serve to set off the painted curtain, making a beautiful window setting. No merchandise other than that shown on the wax figure is required in a show window decorated in this manner.

22. Fall Opening.—In Fig. 26 is shown an artistic temporary background and window setting that will be found particularly suitable for displays of autumn millinery and ready-to-wear garments for either men or women. Like many of the examples already shown, this background consists of a wooden framework covered with harmonizing shades of felt and ornamented with moldings, draperies, and electric lights. The four box-shaped columns are spaced so as to divide it into three panels—a small one at each end and a large square one in the center. Over each end panel is a circular opening formed by the semicircular arch that rests on the two end columns and the upper part of the panel border, which is decorated with composition ornaments. In each of these openings a large electric light with an ornamental shade is suspended by a chain, and over each of these end panels hangs a tasseled drapery, in front of which are placed three small lights with fancy shades. Over the square panel is a cornice formed out of molding that matches the caps of the columns. This panel also is ornamented with a composition-work border, a cut-out drape, and electric lights with fancy shades. Canary-colored felt is used to cover the columns up to the capitals. For the other parts of the columns, the arches, the cornice, as well as the panels themselves, cream-colored felt is employed. The panel frames have a covering of old-rose pink silk, and the com-



FIG. 27



FIG. 28

position ornaments on top of this material are ivory-colored. The draperies, which are fitted with gold tassels, are cut out of cream-colored silk, and the shades for the small lights and the ornamental covering on the large frosted globes are made of old-rose pink silk. The color scheme is very effective, and is helped out considerably by palms and ferns, which are placed on the floor, directly in front of the large central panel.

23. Thanksgiving.—An excellent temporary background for a merchandise display to be made at the time of Thanksgiving is shown in Fig. 27. It consists of three circular panels containing paintings suggestive of the day, surrounded by artificial grapes and foliage. The pictures and the vines are simply fastened to the woodwork of the permanent background, the grape vine being arranged so that it appears to grow from the rear left-hand corner of the show window. The circular frames, which may be made of wood or cardboard, are about 4 inches wide and are painted three shades of violet to match the artificial grapes. As a suggestion, it would be a good plan to cut pictures from white felt and mount them on pale lavender silk surrounded by frames of the same style as those shown in the figure. By putting electric lights behind such pictures, the effect at night would be very striking.

24. Fig. 28 shows a display window with a permanent background decorated in a suitable manner for Thanksgiving. The idea for this design is taken from a famous painting showing two Puritans on their way to church in the old colonial days. From the back of the permanent background is hung a large painted panel of a winter scene, over which is strung a festoon drape of silk velour ornamented with heavy cord and tassels, and at each side of which is hung a draped curtain of the same material. In front of the painted curtain, on a floor covering of white cloth, are posed two wax figures dressed in Puritan costume after the manner of those in the picture just referred to. The floor covering extends to the parquetry border, and over it is sprinkled artificial snow to

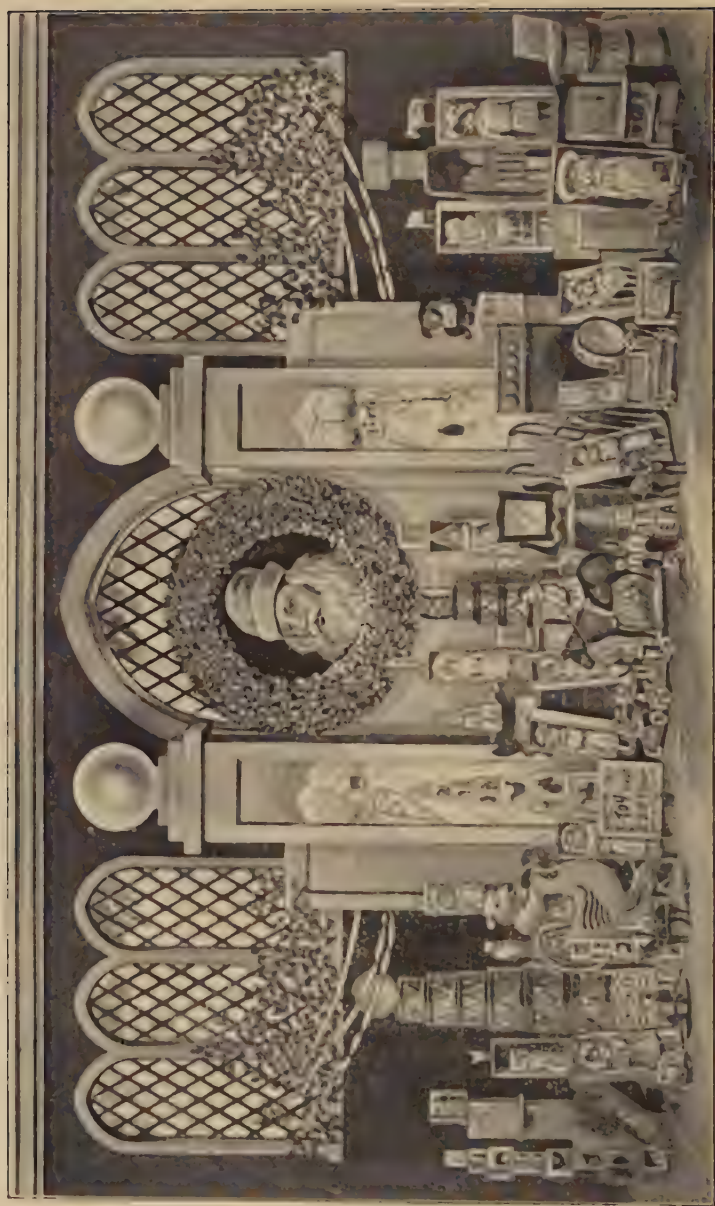


FIG. 24



FIG. 30

make the scene appear realistic. A large log and a bunch of leaves and twigs also add to the scene. No merchandise can be displayed to advantage in a window setting of this kind, although it should be the means of attracting attention to displays arranged in windows alongside of it.

25. Christmas Holidays.—Fig. 29 shows an effective temporary background for a Christmas show window and a display of toys arranged in front of it. In design, this background consists of two large pillars standing at the sides of a large Gothic entrance door and between two sets of Gothic windows. These pillars, as well as the door and window frames, are made of wood covered with white felt. The pillars are capped with large frosted globes, in which electric lights may be placed. Each pillar also contains a panel in which is placed an oil painting of a winter scene. The window frames and the upper part of the door are filled in with yellow silk, across which black tapes are arranged so as to form diamond-shaped designs, giving the appearance of art or cathedral glass. The main feature of this background, however, is the large papier-mâché head of Santa Claus. This head is hung on the door between the pillars and is surrounded by an immense wreath of silver holly. Sprays of holly also are placed on the Gothic windows. Over all the holly are thickly entangled small threads of silver tinsel, which, together with the twisted ribbon extending from the windows to the panels at the sides of the pillars, give the entire background and display an attractive Christmas appearance.

26. Fig. 30 shows a novel decorative background for Christmas, in front of which is formed an artistic display of handkerchiefs suitable for Christmas gifts. This background consists simply of several palettes of different size, several leaves of artificial palms, and a festoon of holly leaves and flowers, all neatly arranged in front of a plush curtain and the art-glass panels of a permanent background. The palettes are cut out of cardboard and are tinted by means of an air brush. The large one contains a picture of Santa Claus

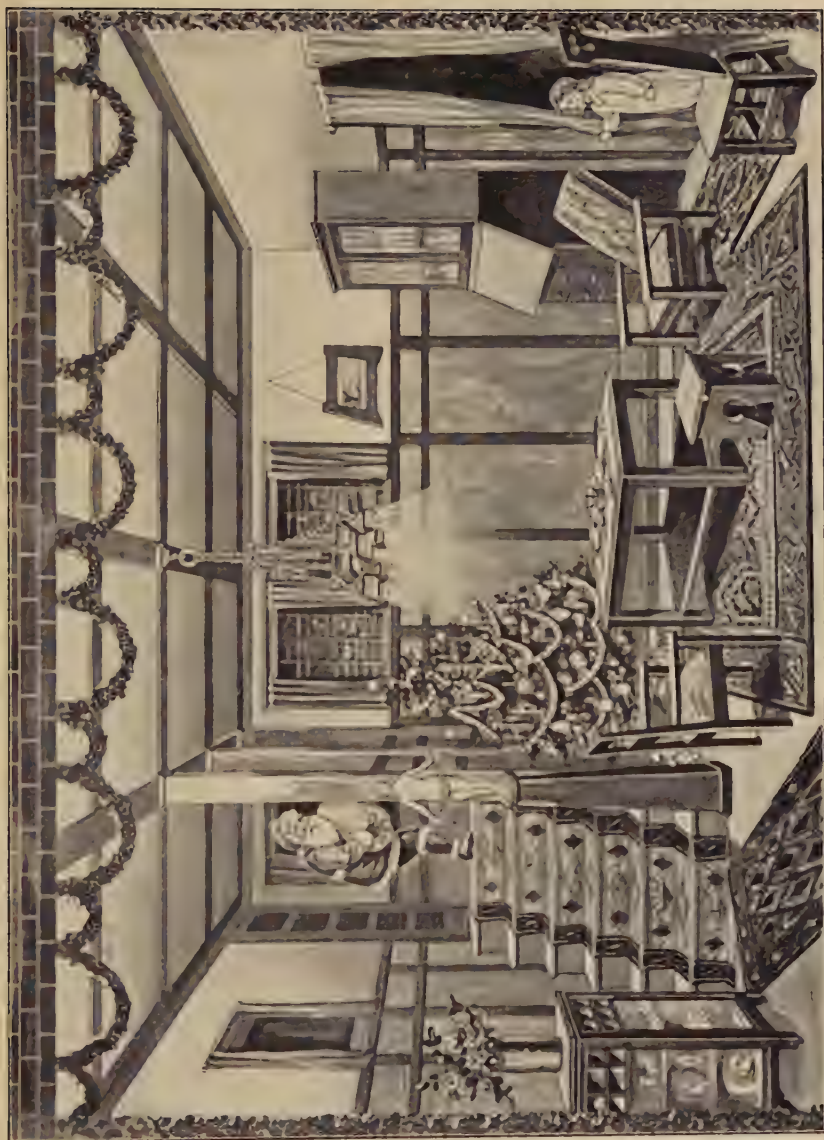


FIG. 31

surrounded by a holly wreath, and through its thumbholes extend two large imitation brushes, the handles of which reach the show-window floor. The three palettes at the right of the large one form a sign that reads "Dainty Xmas Gifts." The holly and the palms set off these palettes to advantage. A detailed description of the handkerchief display will not be given here; it is shown simply to give an idea of how the background will appear with merchandise in front of it.

27. In Fig. 31 is shown an entire show window fitted up to represent the interior of a living room on Christmas morning. At the same time, it serves as a display of furniture, carpets, and rugs. Santa Claus has trimmed the Christmas tree and is in the act of going out of the window at the head of the stairway landing just as a little child pushes aside the portières in the doorway and is about to enter the room. This display forms a picture that is interesting at the Christmas season and is bound to attract attention.

A close inspection of the window will show that the only parts that have to be constructed by the trimmer are the walls and ceiling and the stairway and partition. The entire design, including the furniture, is carried out in Mission style. The ceiling consists of light strips of wood arranged so as to give the appearance of heavy beams when covered with cheesecloth on which is pasted paper resembling dark oak. The panels formed by these imitation ceiling beams are filled in with a light shade of wall paper. For the side walls are used 4-inch strips of $\frac{7}{8}$ -inch material stained to match the ceiling beams. These are spaced so as to form panels, which, together with the space above the woodwork, are covered with desirable shades of wall paper. At the right side of the show window is a doorway, and in the upper spaces at the rear and at the left side are three small windows. These openings are fitted with draperies, which tend to make the room appear homelike. The tall posts used in the stairway partition and the front post, which supports a piece of statuary, are framed out of strips of wood and covered with sheeting, which is painted with water-color paint. The spaces



31
100

between these posts are filled in with strips of wood and paper to match the walls. For the treads and risers of the stairway is used $\frac{7}{8}$ -inch stock, which is painted to match the other woodwork. A neat runner is placed on the stairway, and three rugs—a large one and two small ones—are used to cover the floor. The several articles of Mission furniture are well placed, and over the center table hangs an electric pendant suspended from the central ceiling beam. The Christmas tree and the lifelike figures of Santa Claus and the child, together with the vase of roses on the china closet, the presents on the center table, and the holly strung in front of the window, make the entire display decidedly realistic.

28. Winter Art Panels.—Fig. 32 shows a temporary background that is out of the ordinary so far as design is concerned. It can be used to advantage for displays of winter wear, because it portrays an idea expressive of the winter season. This background consists of a framework built throughout in parallelograms and covered smoothly with white felt. Each of the end columns is hollow and has a long vertical panel fitted with an appliqué design consisting of bright-green translucent material upon which is applied a frost design cut out of white felt. Inside of these columns are placed several small electric lights, which create a beautiful effect when turned on. The large central panel contains a design in L'Art Nouveau cut out of white felt and mounted on green tarlatan. The graceful figure at the right represents the Spirit of Winter scattering frost to the winds, which are symbolized by the long, sweeping curves at the opposite side. The draperies of the woman's figure are delicately outlined in graceful curves, but are scarcely discernible in the illustration.

29. Fig. 33 shows another temporary background fitted with a winter art panel. The framework, which is covered with felt, as in the preceding example, is built entirely in straight lines, giving a massive box effect that is simple and at the same time beautiful. The art panel consists of white plaster figures placed against a gray-felt backing, giving the



Fig. 33

appearance of a design cut from marble. The figures represent three chilly cupids building a fire. One is carrying sticks of wood, another is blowing the flames, and the third is warming his hands. Back of the cupids, in the smooth gray felt, is a cut-out design that represents or, rather, suggests flames and smoke carried by the wintry winds. Behind this design is placed colored translucent silk shaded in metallic colors. These colors are strong and bright close to the fire, but grow gradually fainter as they extend toward the edges of the panel. This cut-out design is the keynote of the entire background and is wonderfully effective. The only ornamentation on this background besides the central panel is a neat border of conventionalized poinsettia extending across the top. Pieces of Japanese ware are tastefully arranged on the ledges of the background and the floor in front of it. This ware serves to add brightness to the background, and is perhaps the only class of goods that can be shown to advantage with it.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 2)

INTERIOR DECORATIONS

REMARKS

1. An attractive store interior has much to do with the successful sale of merchandise. Tempting displays in show windows and show cases are great factors in attracting customers, and their influence in selling goods will be greatly enhanced if the appearance and the arrangement of the stock are in keeping with them. Not only must the merchandise be displayed effectively at all times, but occasionally—say at the openings of the seasons, during special sales, and at the time of holidays and anniversaries—it is advisable to get up interior decorations that are out of the ordinary.

Store interiors are decorated in practically the same manner as show windows. Displays can always be arranged to advantage on the ledges or the flat surfaces on top of shelving; and the beauty of a store, especially one with a large floor space, can be increased by decorating its bare and unsightly columns. The balconies and rotundas, too, come in for a big share of the decorations, particularly at the time of some special event.

For interior decorations, use is made of practically the same materials and devices that are employed in getting up temporary backgrounds. Thus, in addition to regular merchandise, effective decorations can be formed by employing natural

and artificial flowers, vines, and foliage, draperies, papier-mâché and composition ornaments, statuary, wax figures and display stands, painted scenes—in fact, everything that can be utilized in window displays.

2. Many are the ways in which store interiors may be decorated. Indeed, the designs that can be thought of for beautifying ledges, columns, and galleries are endless. To be successful, however, the trimmer not only must be capable of planning attractive designs for interiors, but must possess sufficient executive ability to carry out any of the plans that he devises.

It is the intention in this Section to show and describe many examples of ledge-and-column decorations, as well as many displays for rotundas and balconies and arrangements of show rooms for various kinds of goods. Of course, all the different arrangements and designs that it is possible to work out cannot be illustrated and explained here; nevertheless, the examples given should be sufficient to aid the beginner in planning and forming decorations suitable for any modern store.

EXAMPLES OF LEDGE-AND-COLUMN DECORATIONS

3. In each of the illustrations of ledge-and-column decorations that follow, only one column and a section of the shelf ledge are shown. The number of columns, as well as the ledge space, to be decorated will always depend, of course, on the number of columns in a store and whether or not more than one department is to be made prominent.

4. **Valentine Display.**—In Fig. 1 is shown how the columns and ledges of a store may be decorated for St. Valentine's Day. Just below the capital of the column are placed stock papier-mâché brackets, which are held in place by two pieces of wire made to pass around the brackets and the column, as shown, and the spaces between the brackets are filled in with sprigs of palms. From these brackets are hung several hearts pierced with arrows, and from the bracket at the right is suspended a stock papier-mâché cupid holding a bow and



FIG. 1

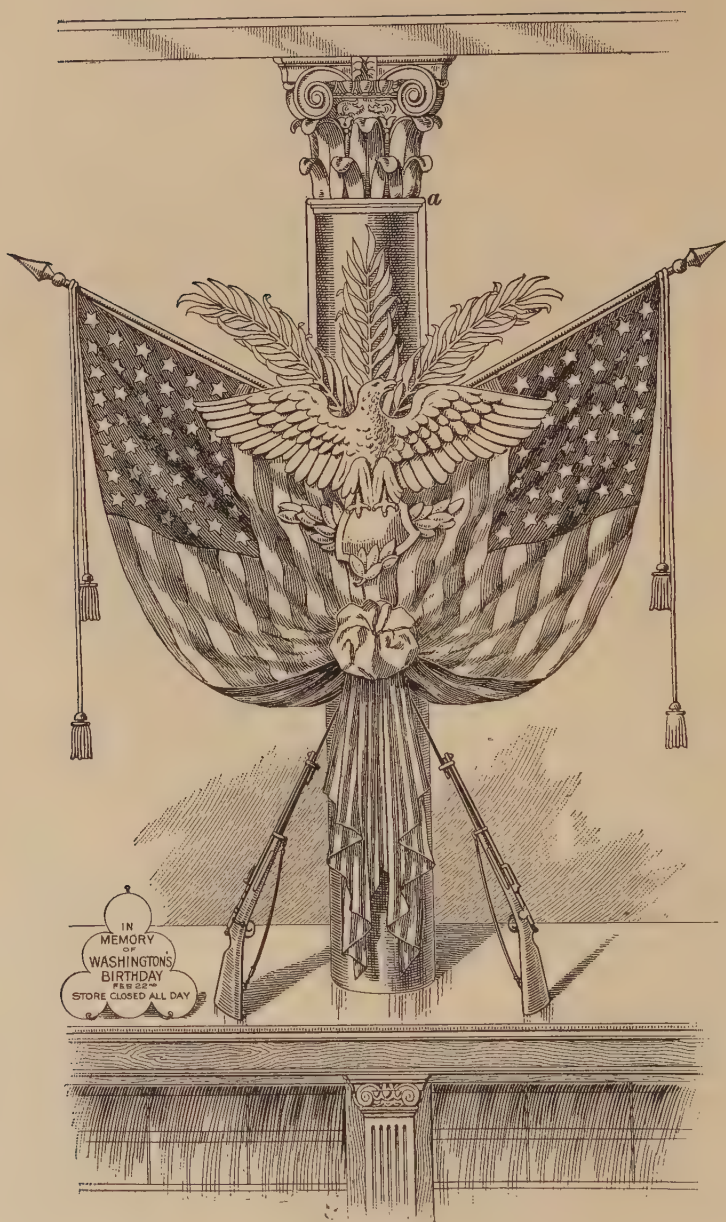


FIG. 2

arrow. A large heart pierced with several arrows is fastened to the column, and around the base of the column, or, rather, where it meets the shelf ledge, are placed more sprigs of palms. Standing on the ledge, at the left of the column, are a cluster of palms and another papier-mâché cupid, and scattered on the ledge are several more hearts. At the right is placed a small easel holding a heart-shaped show-card that tells about the valentines offered for sale.

In a decoration of this kind, use may be made of red papier-mâché hearts, of hearts cut out of red cardboard, or of hearts made of red silkoline or satin stuffed with cotton batting. If only one side of a heart is to show, heart-shaped pieces of cardboard covered on one side with red satin and then padded to give a rounded effect will prove satisfactory. If both sides are to show, two hearts of this kind may be placed back to back and sewed together.

Prepared palm leaves—that is, natural leaves that are dried and then painted with chrome green—are usually employed in such interior decorations. They can be purchased from regular decorative supply houses. For other styles of decorations, it is possible to obtain prepared leaves that are gilded or silvered; also, leaves painted some light color and tinted with an air brush can be secured if some delicate shade is needed.

5. Patriotic Display.—In Fig. 2 is shown an excellent column-and-ledge decoration for a patriotic occasion. Use is made in this decoration of two flags, an ornament in the form of a papier-mâché eagle, and two rifles. The poles of the flags are fastened to a block of wood that is secured to the column at a point about midway between the ceiling and the shelf ledge. These two flags are draped into festoon folds and a rosette is formed of the surplus goods. The papier-mâché ornament is suspended by wires fastened around the column below the capital, the wires being prevented from slipping by grooves *a*. The two rifles, with bayonets adjusted, are simply made to lean against the column, as shown. A neat show-card that announces the occasion for which the

decoration is made completes the display. This card rests on a small easel placed at the left of the decorations.

The method of draping the flags used in this display is illustrated in Fig. 3. Starting at the inside edge, about midway between the pole and the bottom edge of the flag, the trimmer gathers the material and pulls it through an opening formed by the fingers and thumb of his left hand. He then ties the surplus material with a string and forms a rosette.

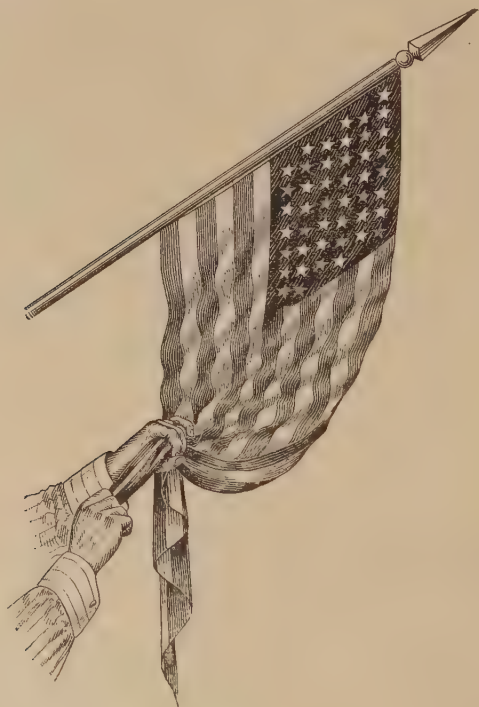


FIG. 3

6. Spring Displays.—Ledge-and-column displays suitable for spring openings are illustrated in Figs. 4, 5, and 6.

The display shown in Fig. 4 is intended for an Easter millinery opening. Its principal feature is a stock papier-mâché figure that is holding aloft two ornamental torches. This figure is fastened to the column about midway between the

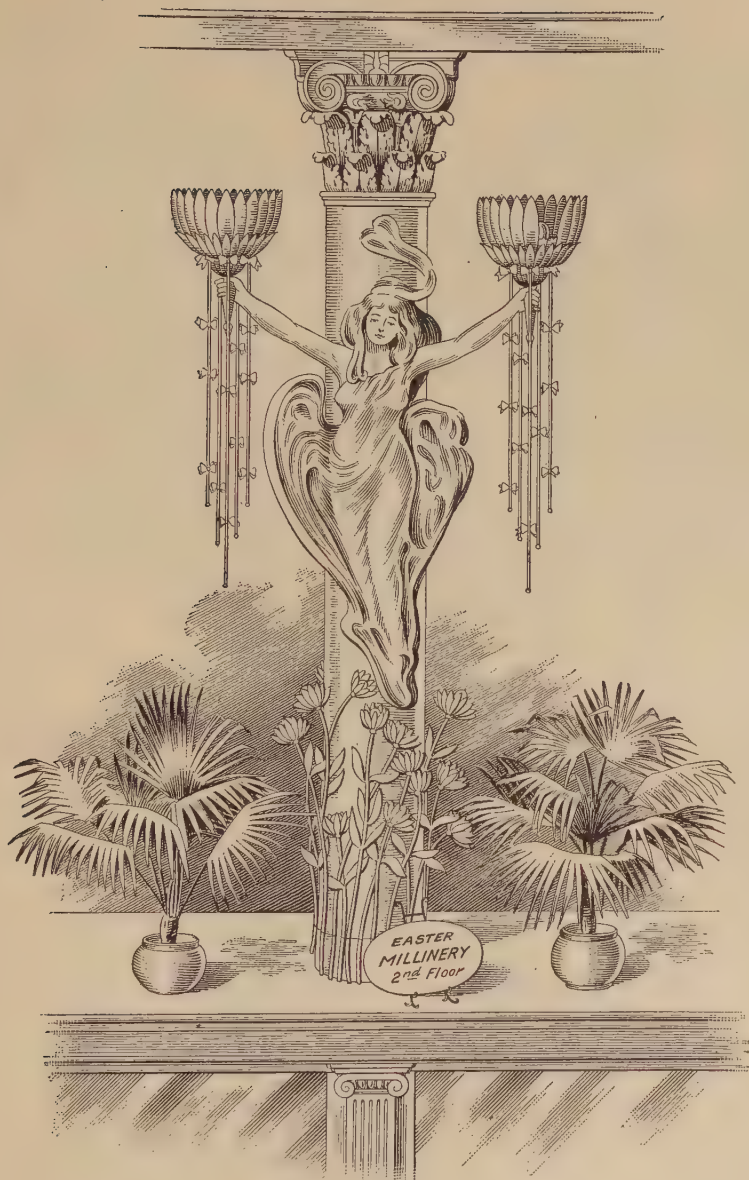


FIG. 4



FIG. 5

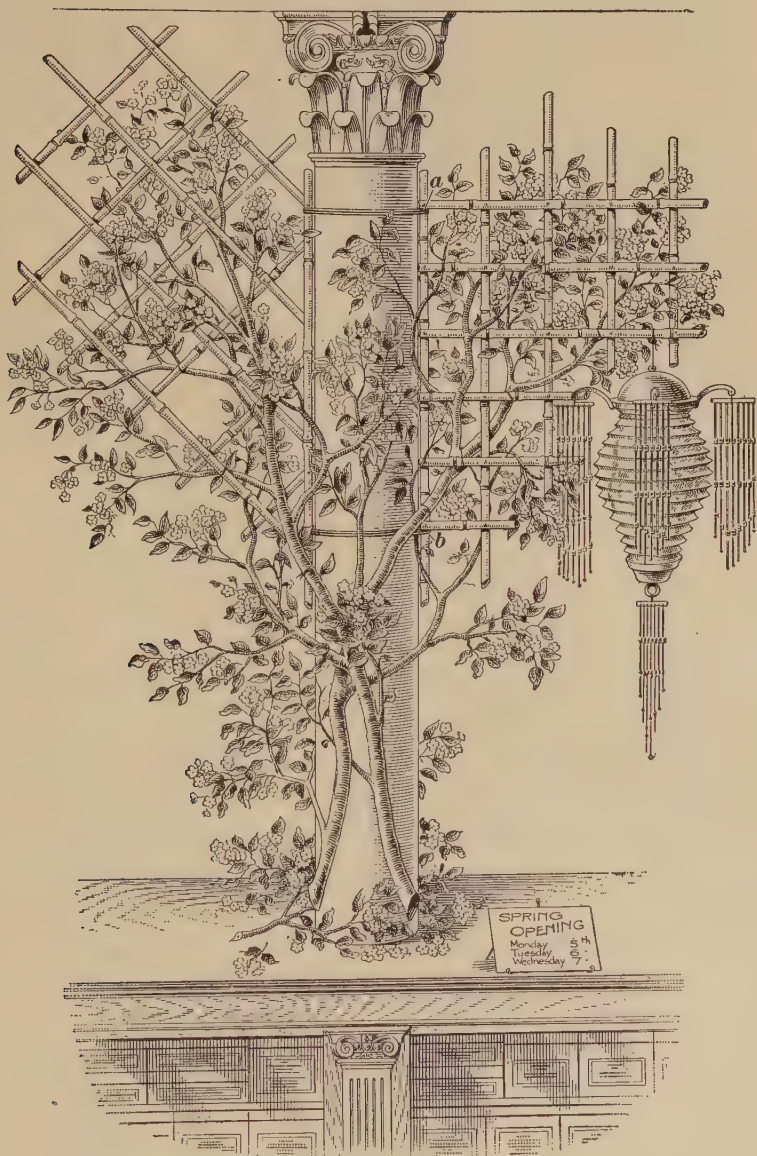


FIG. 6

ceiling and the top of the ledge. The torches are fitted with electric lights, and from them are hung streamers of baby ribbon to which are attached bows of wider ribbon. To the base of the column are secured several artificial flowers, each of which contains a small electric bulb. A potted palm is stood at each side of the column, and near its base is placed a show-card supported by an easel. A display of this kind is very attractive, especially when the lights are turned on.

The spring-opening ledge-and-column display shown in Fig. 5 is very attractive. Two wooden grilles of odd design are fastened to the column by means of wires, as shown at *a* and *b*. Twining around the column and spreading out on the grilles is a Japanese Wistaria vine, and hanging from a chain attached to the upper point of each grille is a lantern of antique design. The display is completed by a group of potted palms and a show-card, which are placed near the base of the column.

The spring-opening display shown in Fig. 6 is similar in design and arrangement to that shown in Fig. 5. The grilles, however, are different in shape and are made of bamboo, and the floral decorations consist of cherry-tree branches and cherry blossoms. In keeping with the design, which is decidedly Japanese, a Japanese lantern with ornamental attachments is suspended from the grille at the right. On the shelf ledge is simply stood a card announcing the days of the spring opening.

By changing the floral decorations in Figs. 5 and 6, a number of decorations suitable for different occasions could be formed. For example, instead of the Wistaria vine in Fig. 5, a grape vine with bunches of grapes could be used for a fall display; also, by using smilax and poinsettia or holly instead of cherry blossoms, the display in Fig. 6 would be suitable for the Christmas holidays.

7. Autumn Display.—In Fig. 7 is shown a column-and-ledge decoration suitable for a fall-opening sale. The column is decorated so as to represent a tree with autumn leaves. Several leaves scattered around the base of the tree and two stuffed squirrels—one in the act of climbing the tree and the



other seated beneath the tree and eating a nut—make the display realistic.

Either papier mâché or cloth may be used in covering the column to form a tree trunk. If cloth is used, paper will have to be stuffed under it at various places, so as to give it a rough appearance. Whether papier mâché or cloth is used to form the trunk, the material should be painted after it is in place in order to secure the best possible reproduction of the natural coloring of the tree that is to be represented. The tree limbs, which may be natural or artificial, should be supported by wires suspended from the ceiling or the top of the column, and the lower ends of the limbs should be cut at a proper angle and inserted into the material used to form the trunk of the tree. At the places where each limb is inserted a piece of cloth saturated with paste should be wound around the limb and pushed against the trunk. This cloth will serve to hold the limb in place. When the paste is dry, the cloth should be painted so as to make the limb appear to be growing out of the trunk; that is, the paint should be blended from the color used on the trunk into the color of the limb. Tree effects suitable for any season of the year can be made by simply using the proper kinds of foliage and blossoms.

8. Christmas Displays.—Three good ideas for interior decorations to be made around the Christmas holidays are illustrated in Figs. 8, 9, and 10.

In Fig. 8, a large papier-mâché head of Santa Claus surrounded by a wreath formed out of prepared sago leaves is secured to the upper part of the column, and below it, twining around the column, are sprays of holly and garlands of evergreens. In the main floor of a store containing a large number of posts, the attractiveness of columns decorated in this way may be increased by draping garlands of evergreens from column to column in graceful sweeps, as indicated in the illustration.

In the Christmas ledge display shown in Fig. 9 use is made of a stock papier-mâché form of Santa Claus driving a reindeer and sitting in a sled loaded with toy packs and a small Christ-



FIG. 8

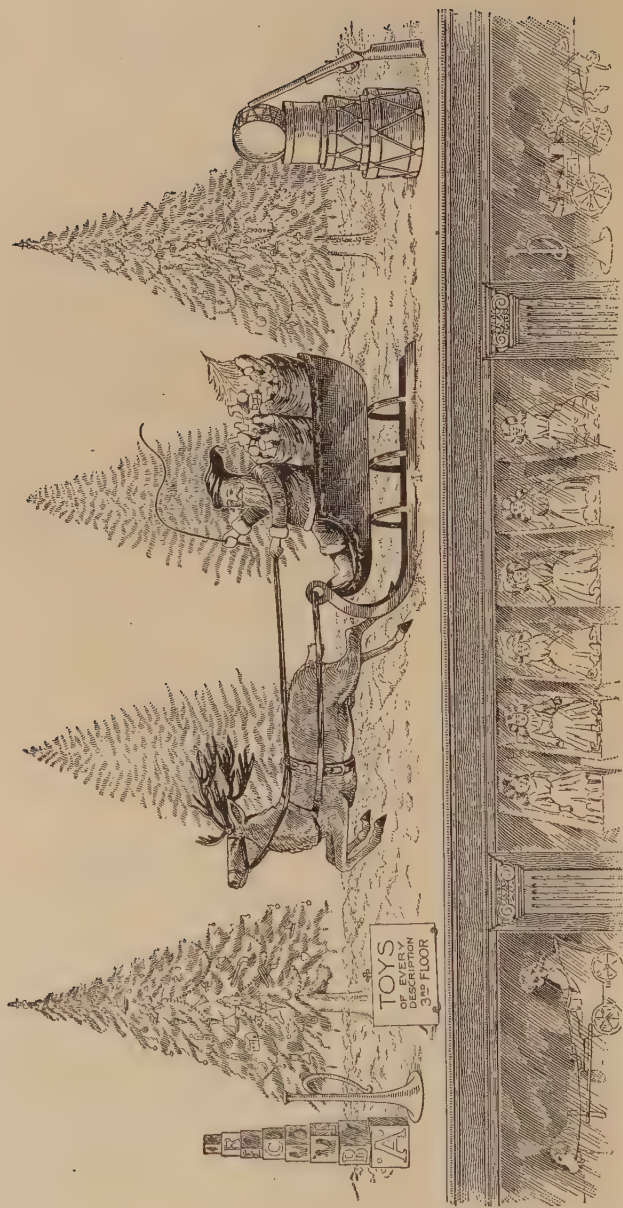


FIG. 9

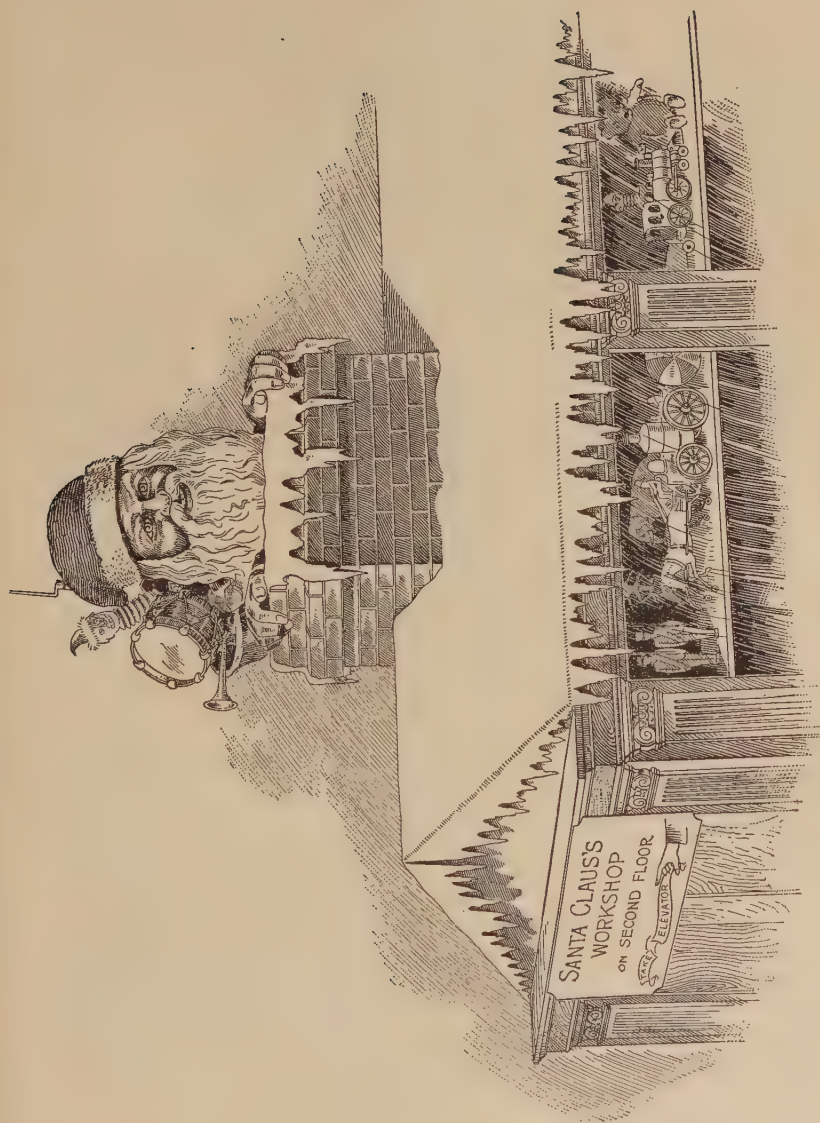


FIG. 10

mas tree. The ledge is covered with white cloth, on which is sprinkled powdered isinglass, or mica, to give it the appearance of snow. The surface of the cloth is made rough by placing large wads of paper and empty boxes here and there under the cloth. Several fir trees trimmed with toys and tree ornaments and sprinkled with artificial snow are placed on top of the ledge covering, and the display is made complete by stacked toys, which are placed at each side of the display.

The Christmas ledge decoration shown in Fig. 10 differs considerably from the preceding displays. It represents Santa Claus with his pack of toys entering a chimney that projects from a snow-covered housetop. The roof consists of a framework covered with white material to represent snow and icicles, and the chimney consists of a framework covered with red cloth that is lined off with white chalk to represent bricks. The Santa Claus is made of papier mâché. Artificial snow and icicles for a display of this kind can be formed in several ways. However, imitation snow made of white sheeting or cotton flannel that is first dipped into whiting and then sprinkled with artificial snow before the whiting becomes dry is considered to be the best, because it is practically fireproof. Icicles are formed by simply cutting the edges of the covering material in a ragged manner, as shown in the illustration.

9. Horse-Show Display.—In Fig. 11 is shown a neat way of decorating a store interior at the time of a horse show. In this instance, the decorations are made in a section of a men's furnishing department of a large department store. On each of the columns, about midway between the ceiling and the floor, is fastened a papier-mâché horsehead, which is surrounded by a large horseshoe, a cluster of prepared sago leaves, and two whips. These decorations, as will be observed, are arranged so as to be visible from the store aisles. They are helped out considerably by the attractive manner in which the merchandise on the cases is displayed.

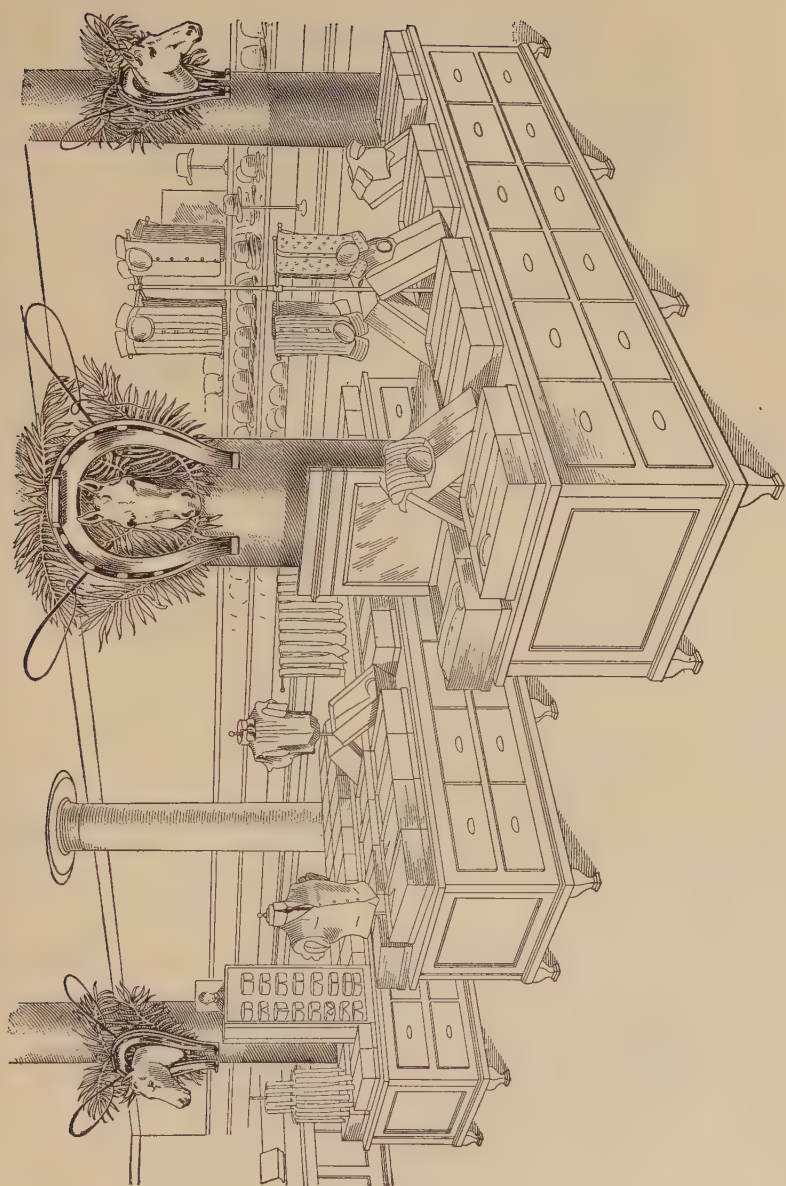


FIG. 11

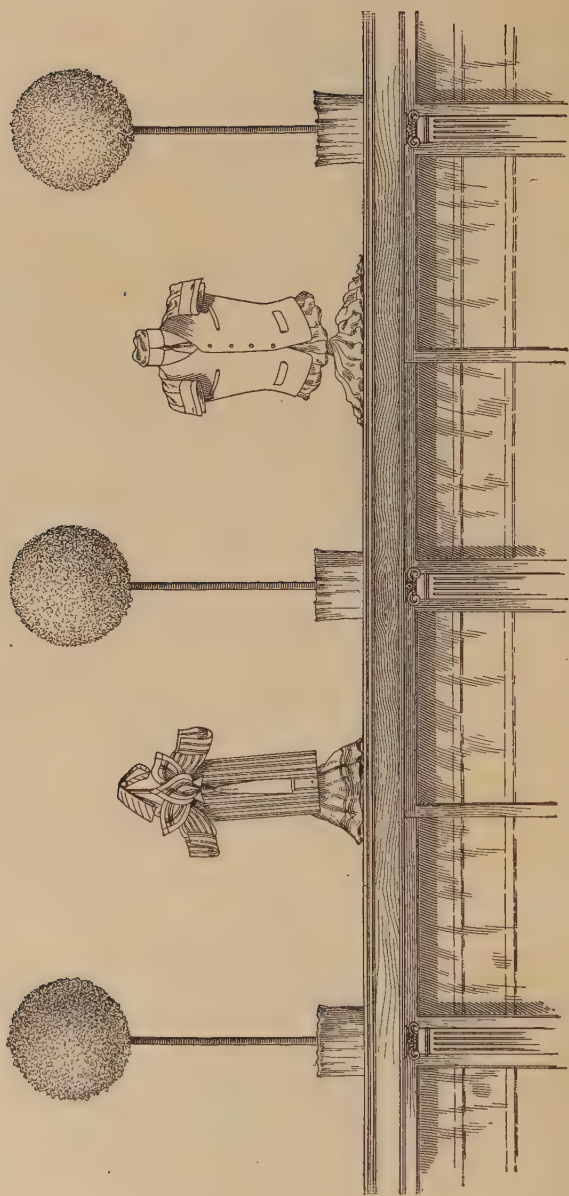


FIG. 12

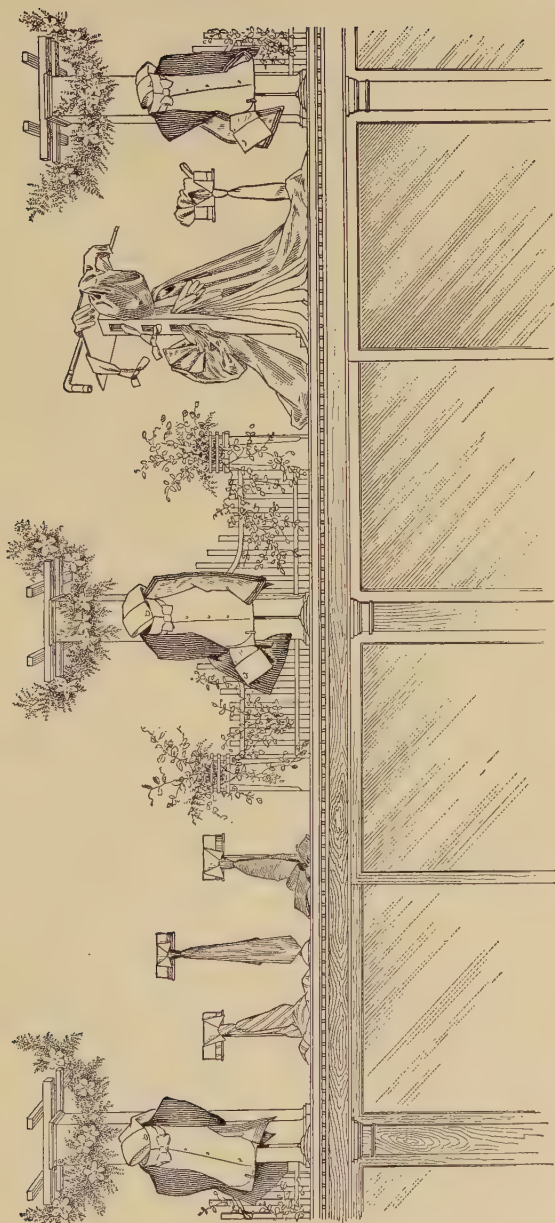


FIG. 13

EXAMPLES OF LEDGE DISPLAYS

10. The illustrations that follow show a number of excellent ledge displays that will be found suitable for the different departments of a department store or for stores of various kinds. Only the decorative features of these examples will be described here; the methods of forming the various merchandise units will be taken up under their proper headings in other Sections.

11. Ledge Displays of Haberdashery.—In Fig. 12 is shown a neat ledge display suitable for the men's furnishing department of a large department store. Boxwood trees are spaced evenly along the ledge, and between them are placed units of men's furnishings. A setting of this style could be used for nearly any line of merchandise.

12. Fig. 13 shows an artistic display of haberdashery on a ledge that is neatly decorated. The large box-shaped columns are covered with unbleached sheeting, which is then painted with cream calcimine, or cold-water paint. The top of each column is finished in pergola effect, and from the strips of wood used for this purpose is draped a neat crescent of maiden-hair fern studded with purple orchids. Short pieces of fence are placed at the sides of the columns. On them are arranged artificial vines and foliage, and on the fence posts are stood baskets of flowers.

Although this setting is admirably adapted for the line of goods shown, it will be found suitable for other lines of merchandise, such as millinery, clothing, spring silks, wash goods, stationery, groceries, etc. By arranging the fences differently, as, for example, placing them crosswise on the ledge, so as to form dividers, many pleasing changes can be made.

13. Ledge Displays of Men's Clothing and Accessories.—In Figs. 14 and 15 are illustrated two ledge displays of men's clothing and accessories; and while both displays are attractive, it may be well to mention that clothing is seldom displayed on ledges unless they are very low. The decora-

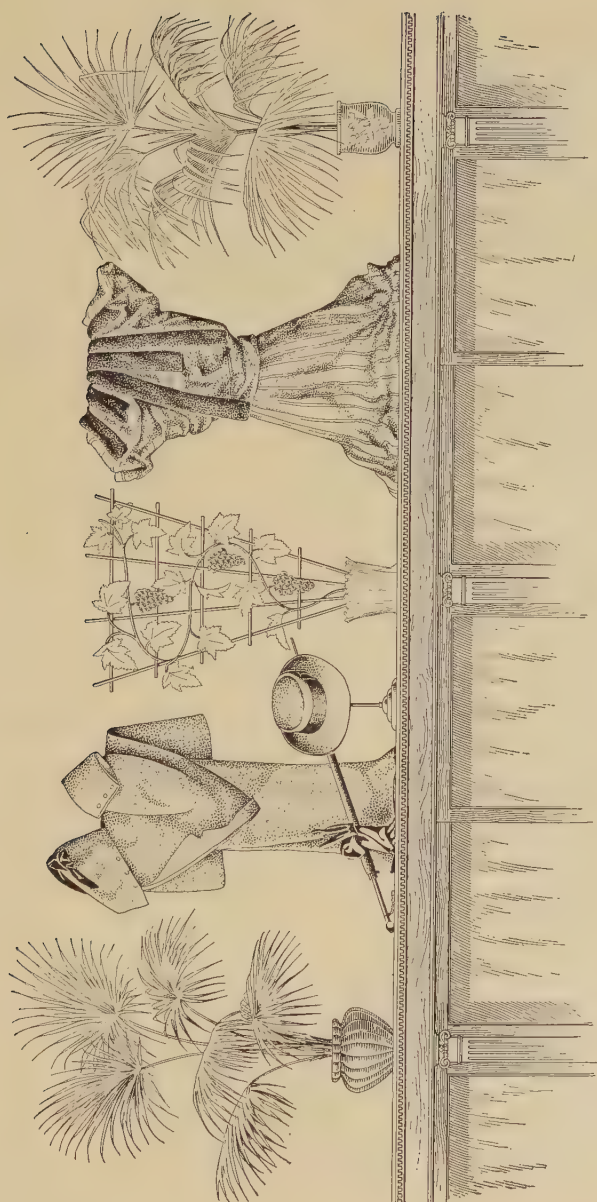


FIG. 11

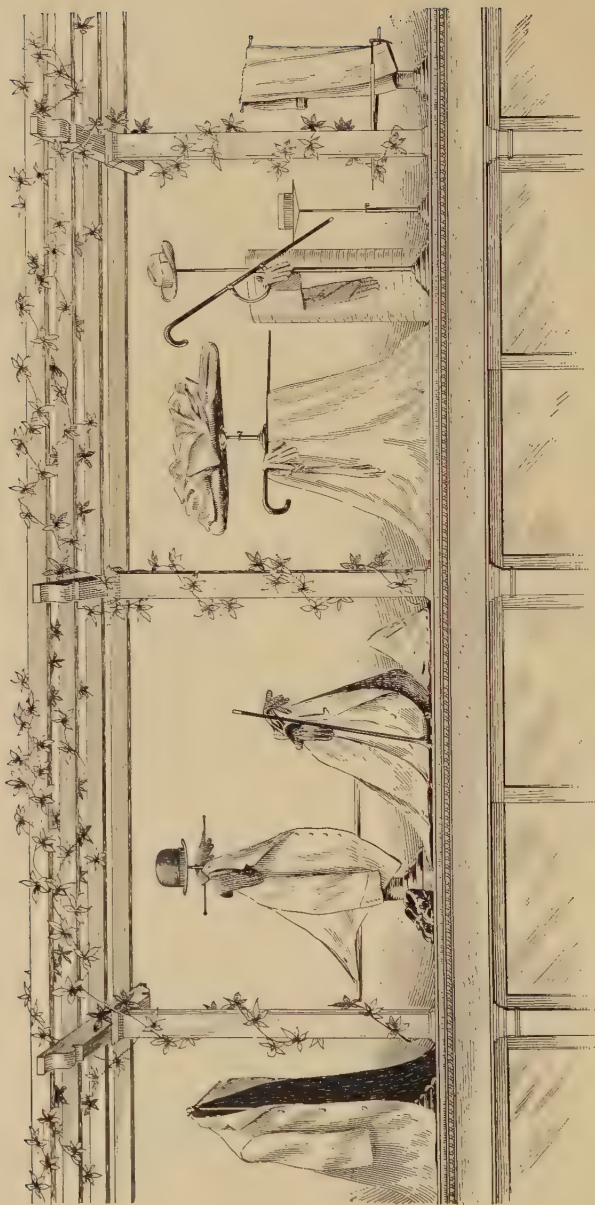


FIG. 15

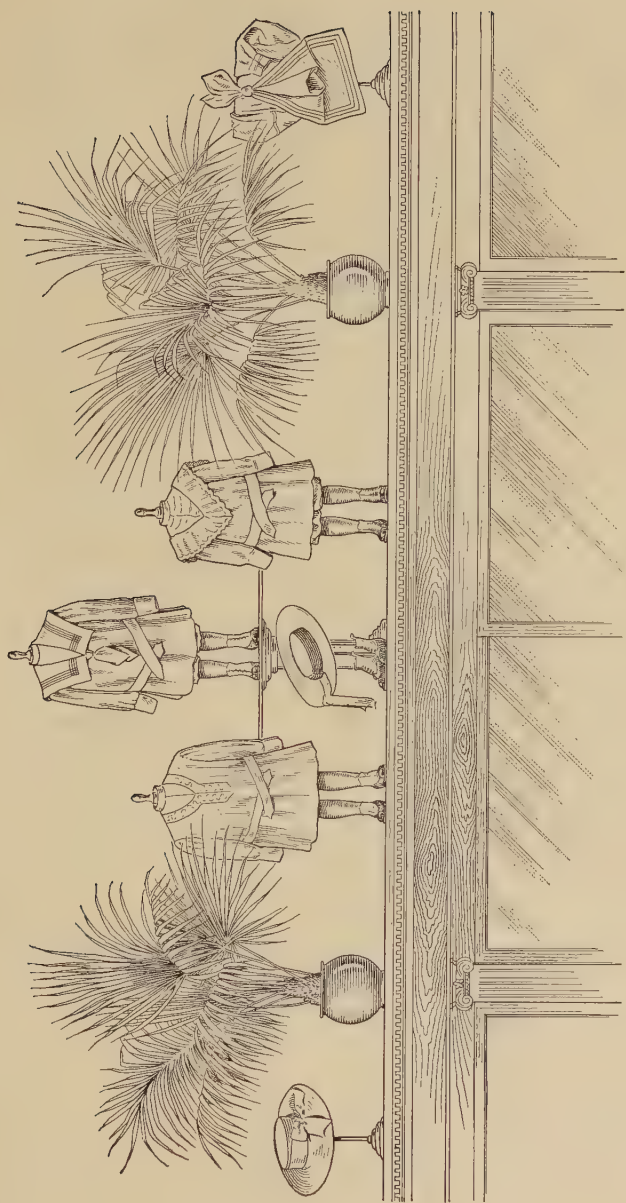


FIG. 16



FIG. 17

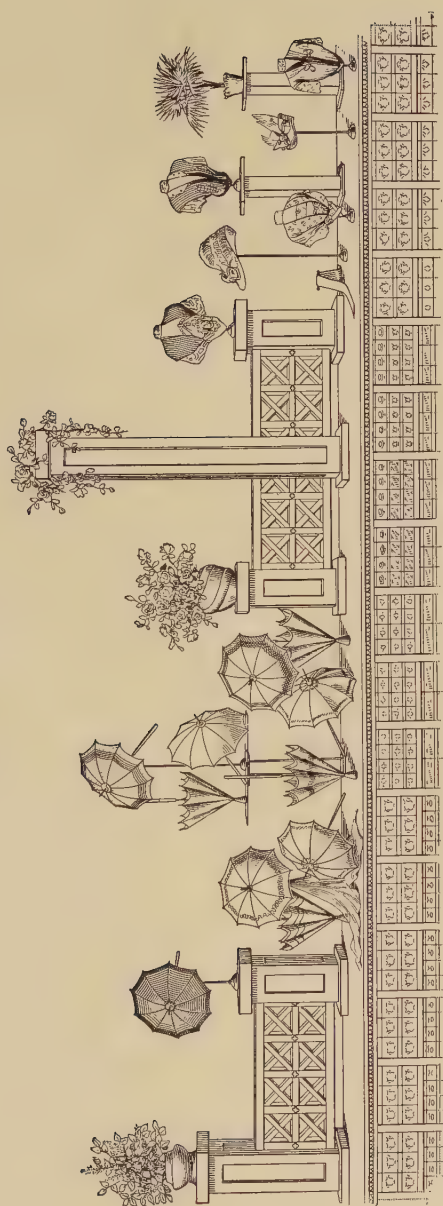


FIG. 18

tions in each example could, of course, be used effectively for ledge displays of other merchandise, such as haberdashery, groceries, etc.

In Fig. 14 the decorations consist simply of potted palms and trellises of artificial vines, and the merchandise units are placed between them. The decorations in Fig. 15 are more elaborate. They consist of a pergola, or arbor, on which are arranged artificial poinsettia flowers and foliage. The pergola is formed out of large columns, crosspieces, and long strips of wood, all of which are covered with unbleached sheeting and then painted with white calcimine.

14. Ledge Display of Boys' Wear.—A ledge display of boys' clothing and hats is shown in Fig. 16. The decorations consist simply of potted palms, which are spaced evenly between the units. Although simple, this ledge display is effective, and, what is more, can be made at little or no expense.

15. Ledge Display of Footwear.—An attractive ledge display of footwear is illustrated in Fig. 17. The decorations consist simply of pots of large Easter lilies, which are placed between the footwear units. These lilies serve to overcome the monotony that would be caused by a continuous display of shoes.

16. Ledge Display of Women's Wear.—In Fig. 18 is shown a ledge display of women's waists, hats, and parasols that is artistically arranged. Neat balustrades and large columns are utilized in the decorations. The balustrades are placed toward the rear of the ledge, and on their box-like posts are placed jardinières of flowers and merchandise units. The columns are stood in front of the balustrades, and over their tops are laid artificial vines with flowers and foliage that hang down gracefully. The parasols are displayed in one of the spaces between the balustrades, and the waists and hats in the other space. This style of decoration could well be utilized for a display of dress goods, silks, men's or boys' clothing, hats, etc.

17. Ledge Displays of Dress Goods.—Figs. 19 to 23 show several artistic displays in which draped dress goods are shown to advantage.

In Fig. 19, the decorations consist of a light framework of graceful design that is covered with green velvet and filled in with white tarlatan. On top of the tarlatan are arranged artificial roses and foliage, making a decidedly artistic effect. In keeping with the decorative framework, there is placed in

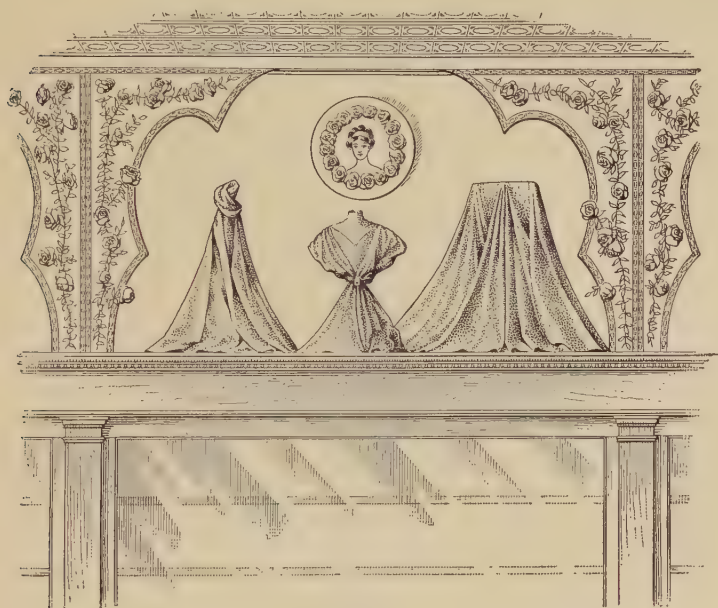


FIG. 19

the center of each section a picture burnt on white mat board. This picture is surrounded by a circular frame covered with velvet, on which is placed a wreath of roses.

For the decorations in Fig. 20, use is made of large box columns and pedestals spaced equal distances apart. Near the top of each column is a stencil design, and at the side of each one, extending to the ceiling, is secured a latticework bracket, in which artificial foliage and flowers may be intertwined if desired. On each of the pedestals, which stand

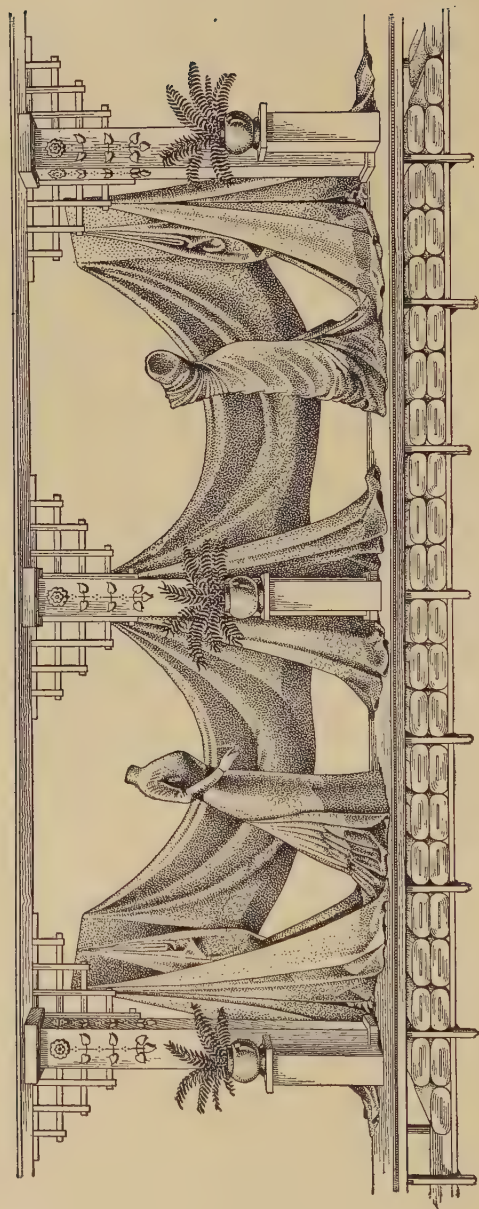


FIG. 20

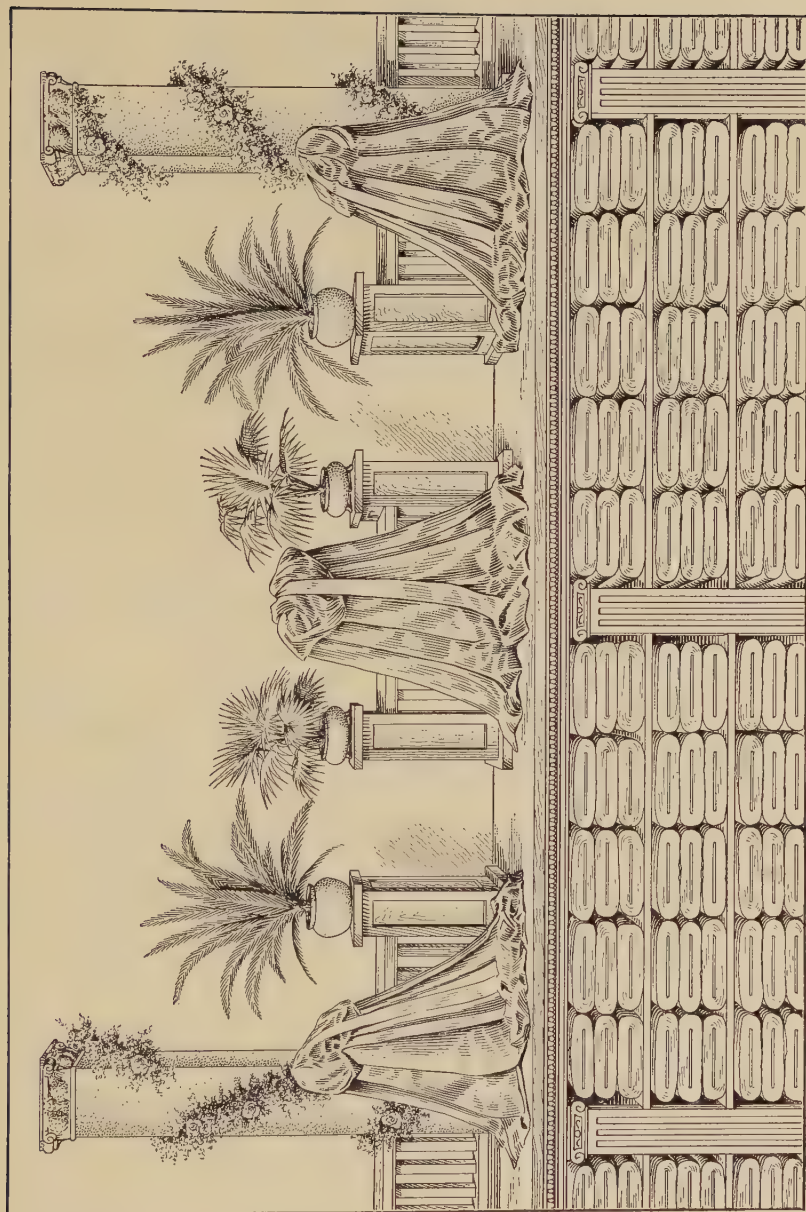
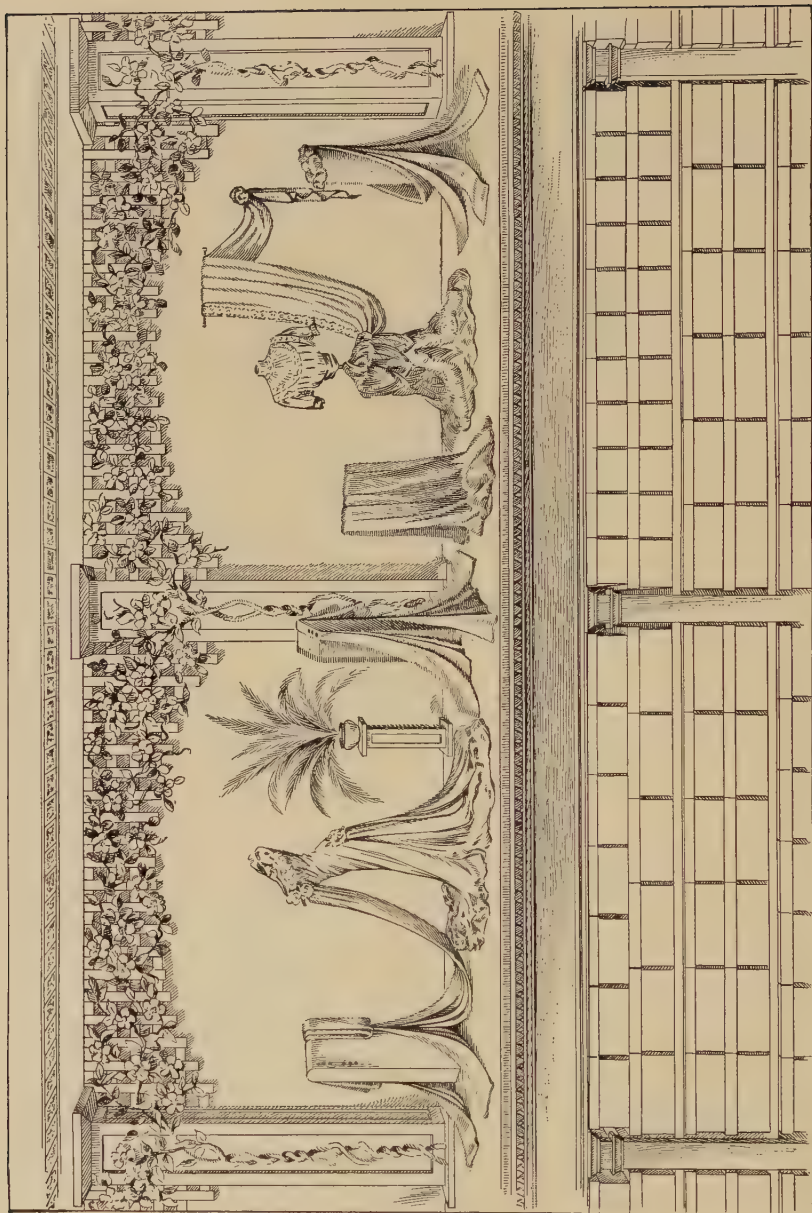


FIG. 21



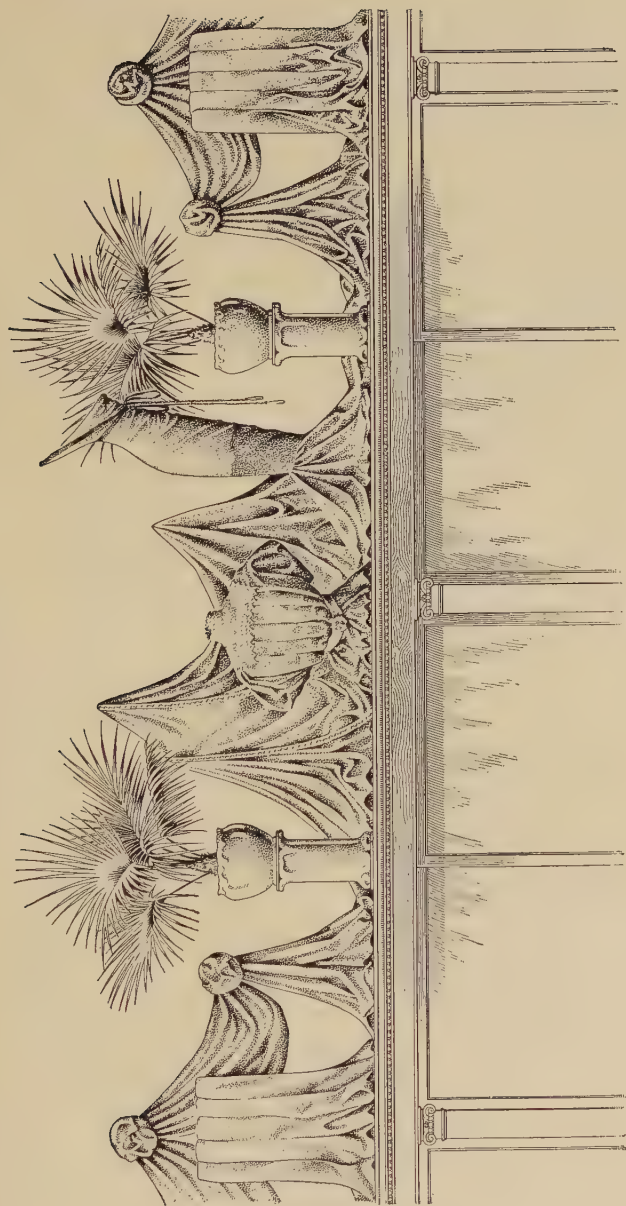


FIG. 23

directly in front of the columns, is placed a jardinière of ferns. These decorative features, together with the artistic arrangement of the dress goods, make an extremely high-grade display.

The decorative part of the ledge display shown in Fig. 21 is particularly suitable for displays of silk dress goods. Tall, massive columns with decorative caps stand in front of the neat balustrades placed toward the rear of the ledge. Around the columns are twined festoons of artificial flowers and foliage, and on the posts of the balustrades are placed jardinières of palms and ferns. These floral decorations aid considerably in making this display artistic.

In Fig. 22, large box-like columns are connected at the top by a latticework placed at the rear of the ledge. Intertwined in this latticework are artificial vines with flowers and foliage that appear to grow up from the base of the columns. In connection with the display of dress goods, neat pedestals supporting jardinières of ferns are used.

In Fig. 23, the decorations consist simply of porcelain pedestals supporting jardinières of palms. These are placed between the units of dress goods and aid the display wonderfully.

DISPLAY-ROOM ARRANGEMENTS AND DECORATIONS

18. In the large department stores, the store managers or the heads of departments usually make an extraordinary effort on special occasions to have their merchandise displayed in some unusual manner. In many of these stores, interior decorators are employed purposely to carry out the ideas of the chief trimmer, and in others the clerks employed in the departments do the work under his direction. On very important occasions, provided a department does not contain sufficient space to permit a good showing to be made, it is customary to make temporary displays in some corner of the store or in a special display room. The illustrations that follow will serve to give an idea of what may be done to make display rooms or departments attractive.

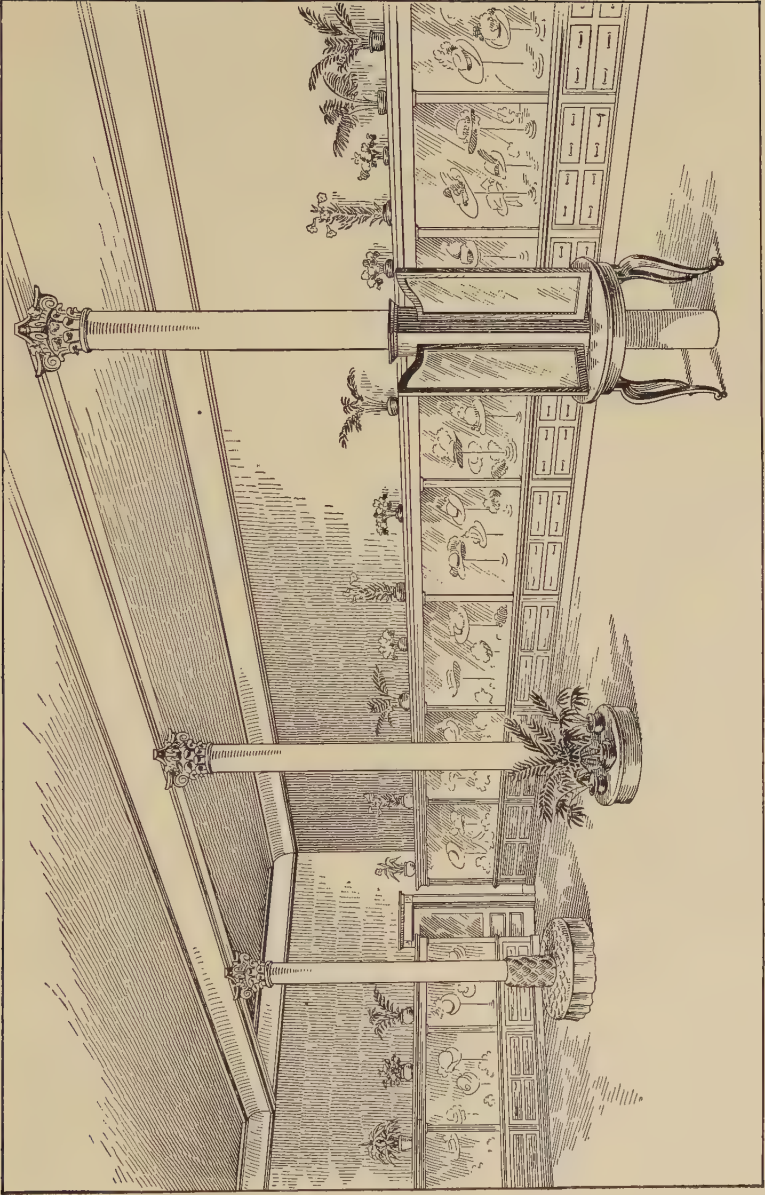


FIG. 24



FIG. 25



FIG. 26

19. Millinery Display Room.—In Fig. 24 is shown a section of a millinery display room that is arranged in much the same manner as the display rooms for millinery in nearly all large department stores. Display cases filled with made-up hats are strung along the walls of the room, and around the store columns are arranged seats for customers, as well as beveled mirrors. This display room is decorated for a spring opening. The decorations consist simply of potted ferns, palms, and Easter lilies, which are placed on the plain-surface tops of the millinery cases and around a few of the columns in the room. The decorations are used sparingly, so as to produce a pleasing and artistic effect.

20. Display Room for Women's Costumes.—Fig. 25 shows part of the women's suit department or display room of a large store decorated and arranged especially for an exhibit of imported French gowns. At the end of the room is hung a piece of French tapestry, each end of which is finished with silk plush. The walls on the sides of the room are finished in sections, having a background of green silk-velour curtains, with a velour valance at the top that is embellished with gold-braid trimmings. On the ends and sides, in front of these backgrounds, as well as between and around the store columns, are arranged platforms covered with cream-colored material on which the gowns are displayed. Artistic-shaped baskets filled with flowers, palms, and Boston ferns are placed about the floor of the display room and on the platforms. At the opposite end of the room—not shown in the illustration—is a section laid out as a reception room.

21. Furniture Display Room.—Fig. 26 will serve to illustrate how the furniture section of a large department store may be attractively arranged. The floor, which is well finished, is partly covered with rugs, and all the furniture, together with the lamps and the table and shelf decorations, is arranged in such a way as to be artistic and at the same time homelike.

22. Grocery-Department Decoration.—The grocery department of a large store is frequently decorated, especially

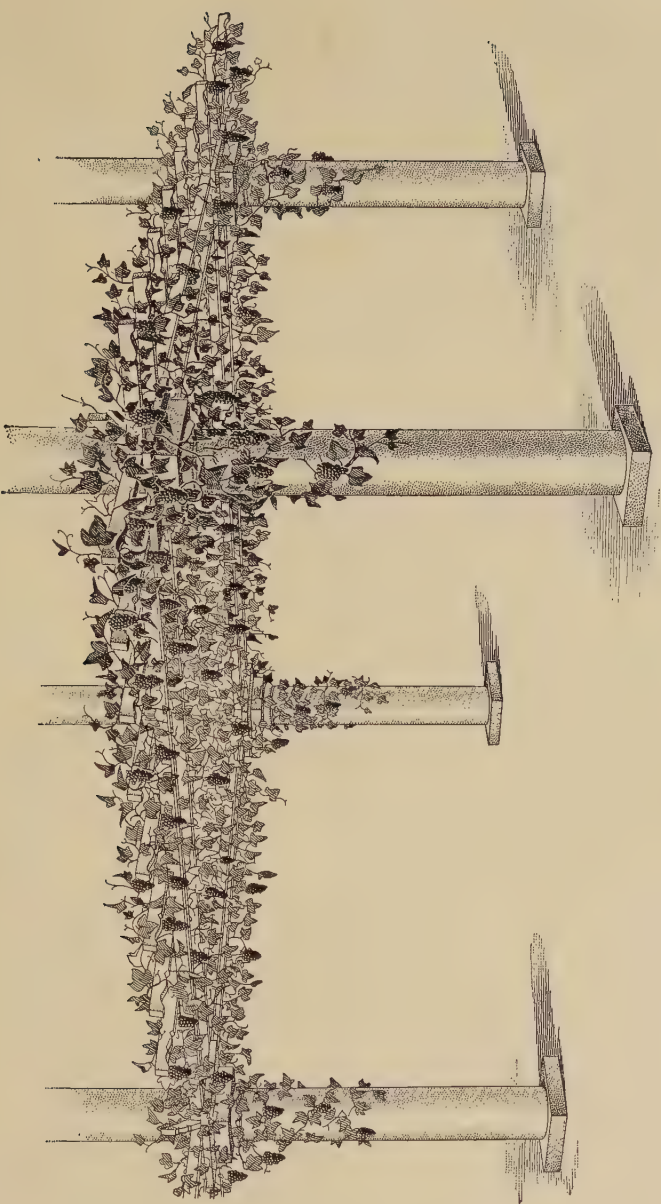


FIG. 27

at the time of a pure-food exhibit. Fig. 27 shows an attractive decoration for a grocery-department display. A pergola, or arbor, under which the groceries may be exhibited, is formed on four permanent columns of the store, as shown; and on it, as well as around part of the columns, are twined artificial grape vines with fruit and foliage. Such decorations, if used occasionally, are bound to create interest in the grocery department of any large store.

MAIN-FLOOR AND ROTUNDA DECORATIONS

23. It is not uncommon on such special occasions as anniversaries, holidays, etc. to decorate the main floors and rotundas of large department stores. Indeed, it is usually made a practice in many of the big stores to get up decorations that will create interest and bring customers into the store. Such decorations always give the trimmer or interior decorator plenty of opportunity to display his ideas as well as his skill. The following illustrations, which are made from photographs of actual interior decorations, will serve to show what can be done to make the main floors and rotundas attractive.

24. Main-Floor Decorations.—In Fig. 28 is shown the main floor of a large department store decorated in honor of its first anniversary. The decorations consist mostly of foliage and blossoms. Around each of the massive columns, about 10 feet above the floor, are placed several limbs of apple trees thickly covered with artificial apple blossoms. These branches are securely fastened in place by wires that are hidden by a circular layer of bark, which serves to give a finish to the lower ends of the tree branches. Between the columns and from one part of the ceiling to another are strung festoons of foliage and blossoms that support immense baskets filled with primrose blossoms. In addition to these decorations, wires thickly covered with foliage are fastened to the ceiling at regular intervals, and from them are suspended bird cages containing canary birds. In the original of this interior decoration, canary birds imported from the Hartz Mountains were used. The singing of these birds created a wonderful amount of interest.

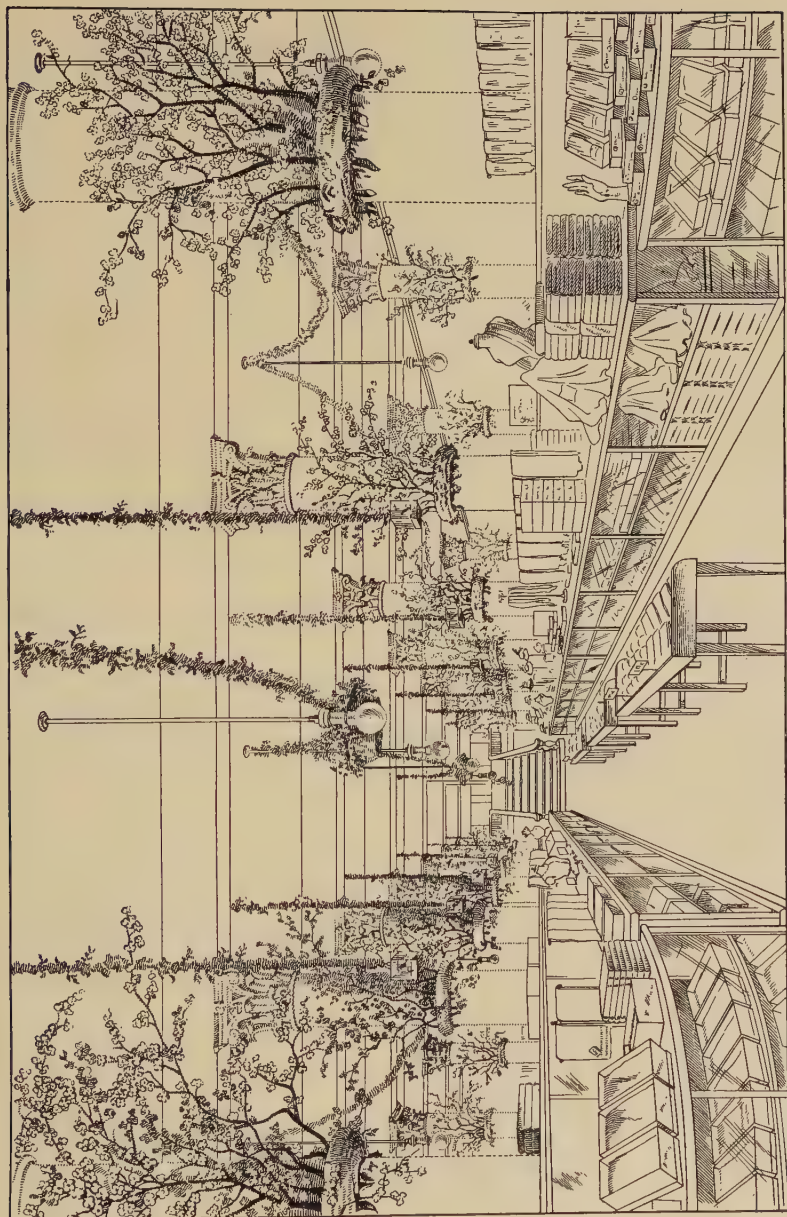


FIG. 28

25. Rotunda Decorations.—Part of a large department-store rotunda elaborately decorated for a spring opening is shown in Fig. 29. The decorations are decidedly Japanese in design. Both ends of the rotunda are decorated in a similar manner, but only one end is shown in the illustration. At each end hangs a painting of a Japanese scene, in front of which projects a platform. On this platform stand a lighted Japanese stove lamp, several dwarfed trees, and a few Japanese figures that are modeled in plaster and are of the proper size and color to harmonize with the painting. At each side of the painting stands a latticework arch in which is hung a beaded Japanese curtain, and in each corner are Japanese cedar trees that stand in buckets covered with birch bark. Small bamboo bridges are also erected at each end of the rotunda, and on them are placed small Japanese figures. Underneath the bridge shown in the illustration is suspended the permanent, square store clock, which is covered with birch bark, etc., so as to give it a Japanese appearance. Along the sides of the rotunda are arranged sections of latticework. These ornamental members are painted light green and are thickly intertwined with Wistaria vines and flowers; also, from the end of each lattice arm hangs a growing fern ball. Neat panels consisting of green netting backed by mercerized satin and ornamented with an appliqué of Japanese water birds cut out of felt are formed beneath the railings between the columns. Standing on the ledge in front of these panels are bark-covered buckets containing Japanese cherry trees in blossom. Besides these trees, moss, iris plants, etc. are neatly arranged on the ledge. This display of trees, flowers, and foliage gives to the entire ledge an irregular garden effect, which is greatly enhanced by illuminated silk-and-glass lanterns suspended from the ceiling above the ledges. In the original of this display, a touch of life was given by many Japanese robins and other birds, which kept up a continuous chorus.

26. Fig. 30 illustrates part of the rotunda of a large, exclusive department store elaborately decorated in honor of its opening. The decorations portray a Roman festival,

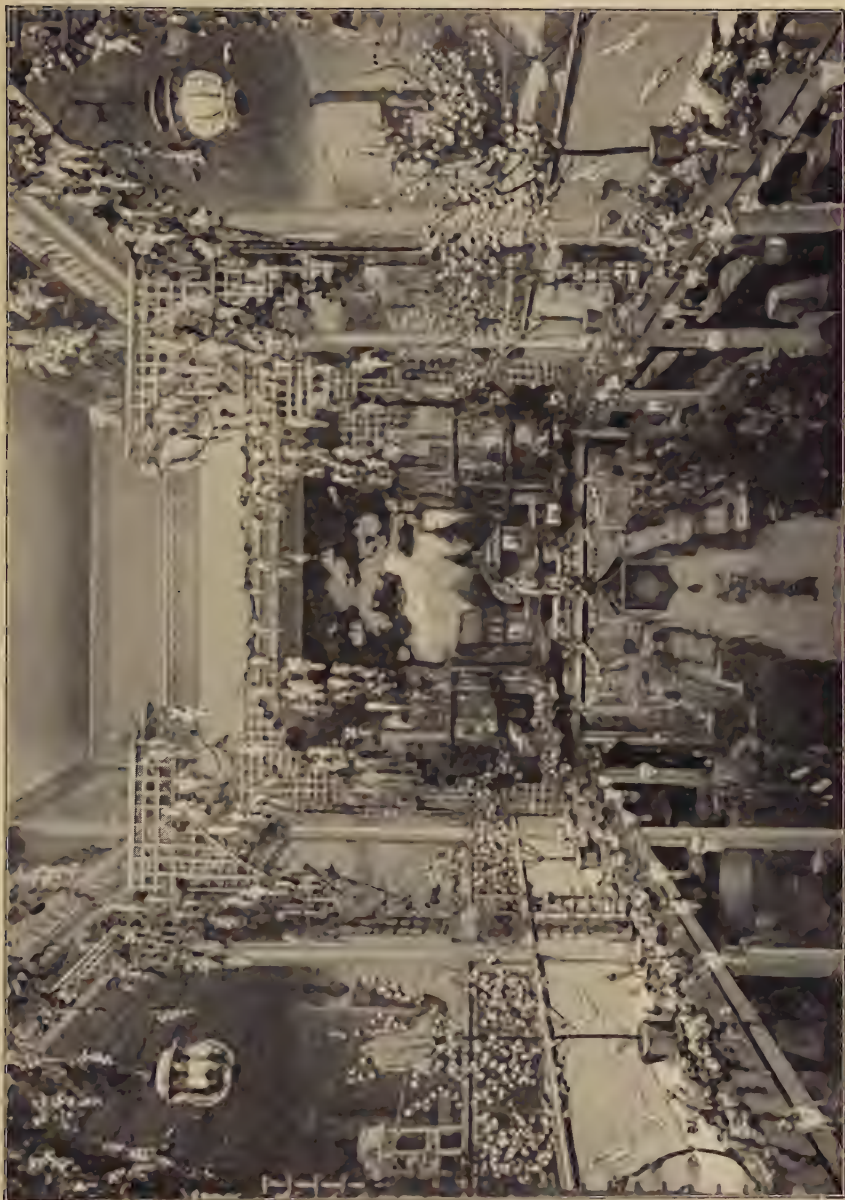


Fig. 29

entitled, "The Feast of the Seasons," and have as a central theme "The Seasons' Tribute to Mercury." This is repre-

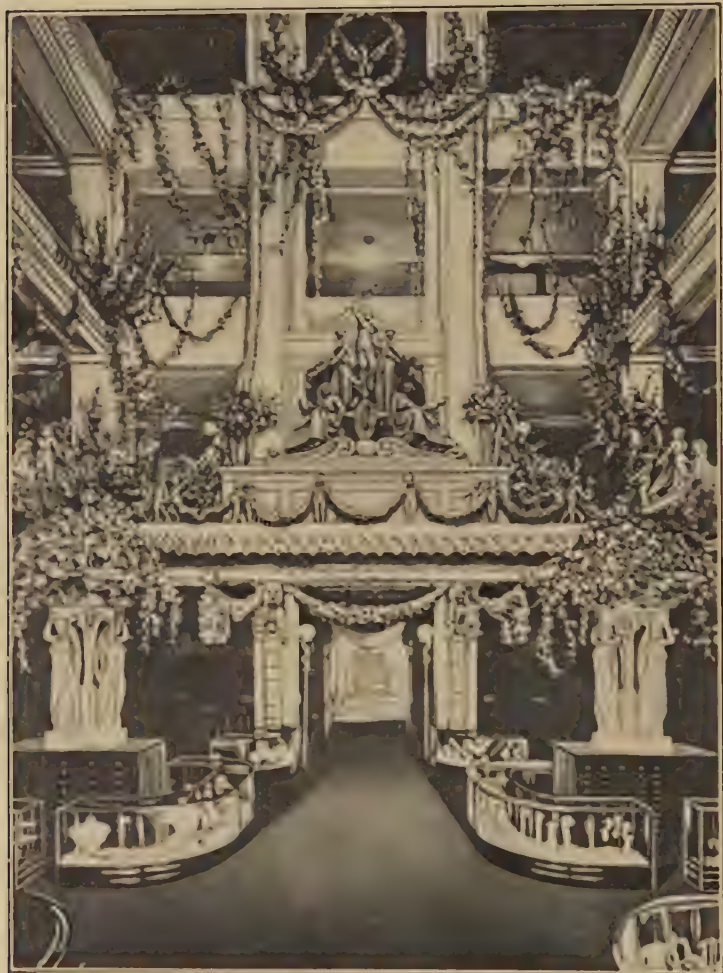


FIG. 30

sented by a heroic painting showing Mercury, the god of commerce, surrounded by a group of figures representing the four seasons with their various tributes appropriate to each

season. This painting is cut out and stretched on a great net, which extends up to the fourth floor. The four seasons are further represented by sculptured figures supporting huge vases filled with autumn foliage and fruit. Below the painting of Mercury is a ledge that extends the full width of the rotunda. On this ledge stand gilded Cupids representing the twelve months of the year. The Cupids hold appropriate festoons of flowers, fruits, and foliage, and are arranged to carry out the idea of the four seasons. At the sides and in front of the painting are altars decorated with ram's heads and festoons, and at each end of the rotunda, forming a sort of frame for the painted group, are immense festoons of autumn leaves.

PAPIER-MÂCHÉ AND COMPOSITION ORNAMENTS

FACTORY-MADE ORNAMENTS

27. As is mentioned elsewhere, **papier-mâché and composition ornaments**, which include moldings, cornices, corners, centerpieces, and other decorative devices, are used considerably in forming temporary backgrounds and interior displays. Such ornamental devices can be purchased from any of the regular decorative supply houses or direct from papier-mâché manufacturers. They can be had either in natural, light tan or in white. Such ornamental members are very simple to mount, or put up; indeed, only glue and small brads are required to secure them to a surface. In nearly all cases, it will be found necessary to paint them so as to match or harmonize with the background or the interior decoration. They should first receive a foundation coat of paint or shellac, after which they may be finished in gold or any color of paint desired.

Figs. 31 to 37, inclusive, show several regular stock designs in which such ornaments are made. Of course, these do not include all the designs that are to be had, but they should be

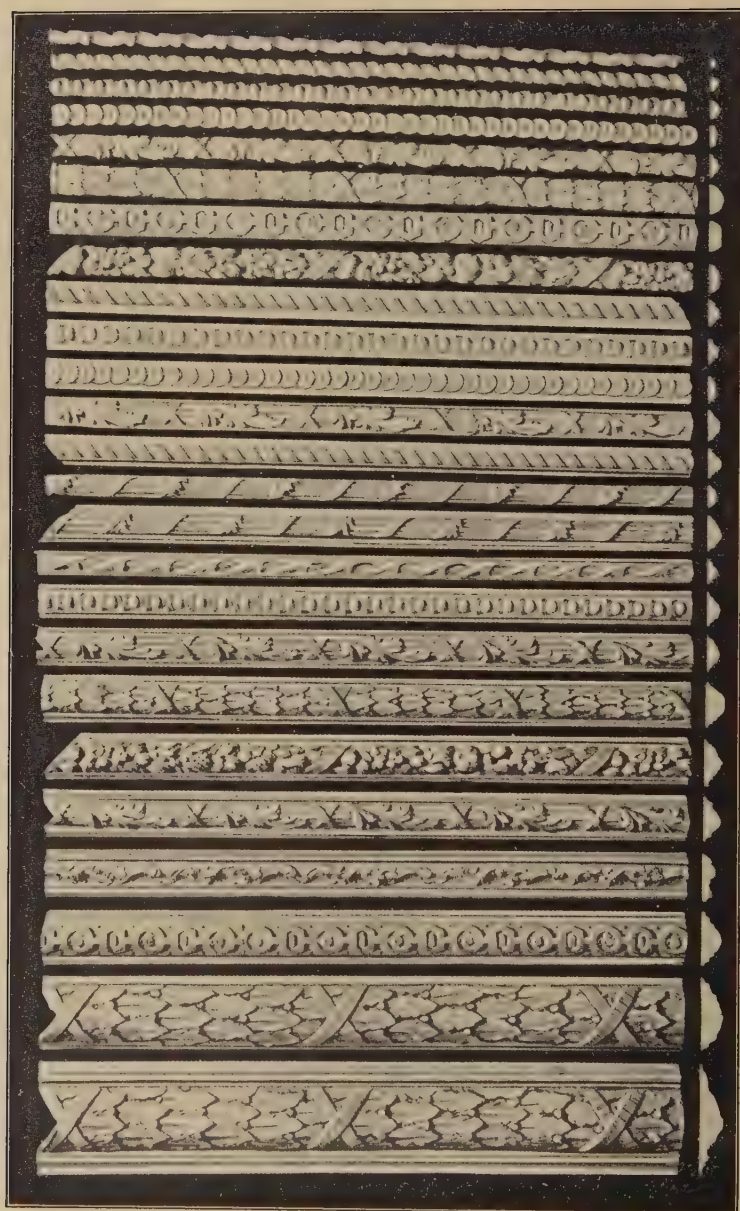


FIG. 31

sufficient to give the beginner a good idea of what can be obtained in this line of materials for decorative display purposes.



FIG. 32

28. Figs 31, 32, and 33 show examples of moldings and cornices. The moldings range from $\frac{7}{8}$ inch to 8 inches in

width, and the cornices from 10 to 20 inches; both moldings and cornices, however, can be had in 8- to 14-foot lengths. With such ornamental pieces, a variety of designs for back-



FIG. 33

grounds can be formed. Moldings that are narrow are especially useful for forming panels, and those that are wide are used considerably in making cornices. Fig. 34 illustrates

several styles of panels made up of moldings and corners. Corners to match the different styles of moldings can be

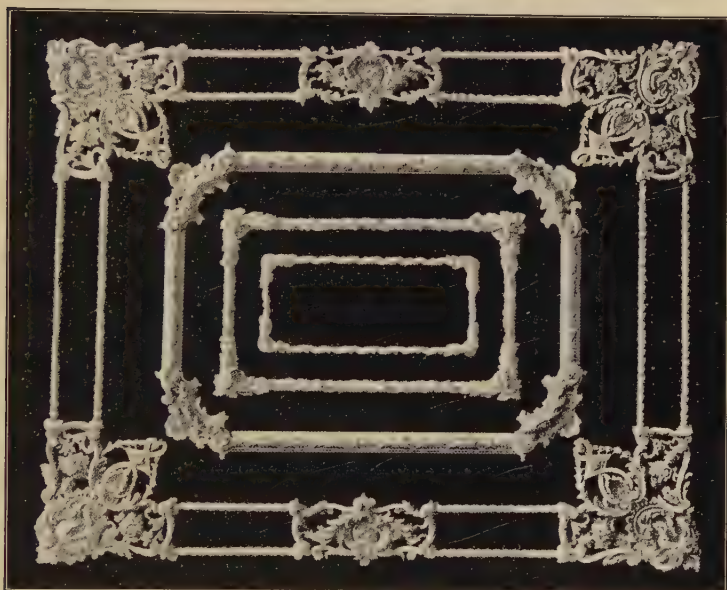


FIG. 34

obtained. By using various lengths of moldings and corners to match them, the decorator can make up panels that will be found suitable for any size of show-window background.



FIG. 35

Fig. 35 shows a panel formed out of narrow molding and appropriate corners, as well as a few ornaments for center

joints; that is, joints formed when pieces of molding are brought together. Such ornaments are often used to break up a long stretch of molding, as shown in the outside panel illustrated in Fig. 34.

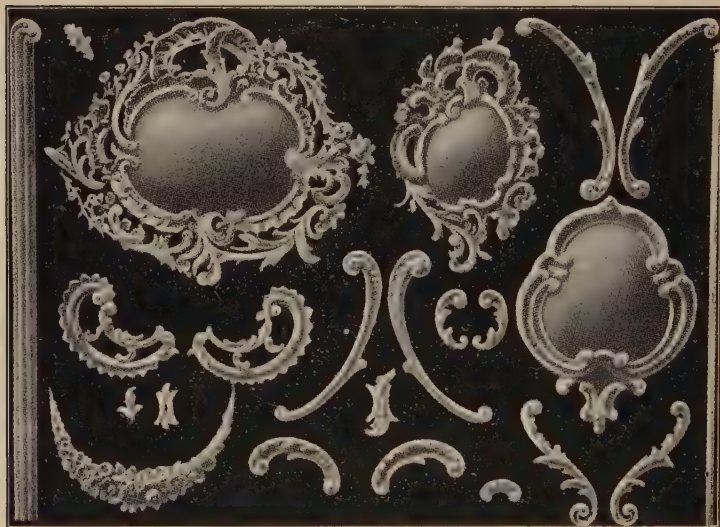


FIG. 36

Figs. 36 and 37 show a large number of ornaments suitable for various purposes. Such ornaments are made in many sizes, to meet the requirements of decorative display work.

ORNAMENTS MADE BY THE TRIMMER

REMARKS

29. Although nearly every known decorative ornament or device for use in window and interior displays can be purchased from regular dealers, the window trimmer is occasionally obliged to make such ornamental devices. It is the intention here to describe the manner in which decorative ornaments of plaster of Paris, papier mâché, and similar materials are



FIG. 37

made, so that the beginner, provided he possesses sufficient ability to carry out the processes, can make such ornaments when necessary. The processes, or methods, as will be observed, are simple, and, except when the ornaments to be made are intricate in design, require only ordinary care on the part of the trimmer to carry them out. In any event, it is advisable for the beginner not to attempt to make ornaments that have too much detail; such ornaments can be made only after a person has had considerable practice and experience in this line of work.

Ornaments of plaster of Paris, putty composition, and clay composition may be molded, and ornaments of papier mâché may be either molded or built up on skeletons of wood and poultry netting.

MOLDED ORNAMENTS

30. Molded ornaments for use in decorations, as just stated, may be made of plaster of Paris, papier mâché, putty composition, or clay composition. The method of making such ornaments consists simply in forming a mold and then making casts from the mold. Before a mold can be made, however, it is necessary to secure a *pattern*, or *model*, of the ornament that is to be made or duplicated. Such patterns



FIG. 38

can be made only by persons that know how to model; therefore, it is advisable for the beginner to purchase models in plaster of Paris or papier mâché from firms that deal in this line of goods. Such firms usually carry a variety of designs from which patterns for ornaments suitable for almost any purpose can be selected.

31. Molds for Casting.

Molds in which ornaments may be cast are of two kinds; namely, *one-piece molds* and *sectional molds*. One-piece molds are used in making ornaments that have a flat back and a decorative

face, like those shown in Figs. 38 and 39—that is, ornaments in half relief—and sectional molds are for casting ornaments that show a solid figure, as, for example, a bust or some similar ornament. Of course, many of the



FIG. 39

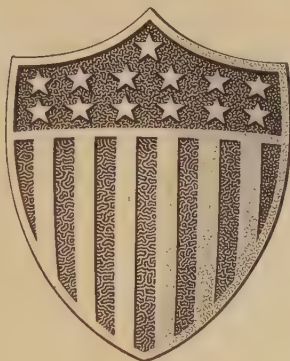


FIG. 40

ornaments cast in one-piece molds can be placed back to back and then fastened together so as to show two sides, but in such cases the design must be one that will appear the same on both sides, as, for example, a shield like that shown in Fig. 40.

32. Making of One-Piece Molds.—Plaster of Paris is the material used to make **one-piece molds**. In order to form such molds, the pattern,

or model, is placed flat in a box that is only a trifle larger than the pattern, as shown in Fig. 41, which illustrates the lion's head shown in Fig. 38 in position in a box. Boxes used for this purpose should not be nailed together, but should be either fastened with screws or tied securely with strong cord or



FIG. 41

small rope, so that they can be taken apart easily. When the pattern is in position in the box, both it and the inside of the box are coated with shellac so as to keep out moisture, and when the shellac is dry, a liberal coat of oil is painted into all crevices. The purpose of the oil is to prevent the plaster of Paris from sticking to the pattern and the box. Lard oil is the best to use for this kind of mold, but nearly any oil that is heavy and not sticky will do. Plaster of Paris of about the consistency of stiff paste is then poured over the pattern until the box is filled even with the top of its sides. The plaster of Paris is allowed to stand until it becomes hard. The sides of the box are then removed, and after turning the block of plaster of Paris upside down, the bottom of the box and the pattern are removed. The depression of the pattern in the plaster is then coated with shellac, and when dry it is painted with oil. The mold is then ready for the actual work of molding facsimiles of the pattern, or model.

33. Making of Sectional Molds.—More care is required in making **sectional molds** than in making one-piece molds, because they must be separated into parts. Either plaster of Paris or a mixture of gelatine and glue may be used to make molds of this kind. If the molds are to be made of plaster of Paris, either regular modeling plaster of Paris should be used, or a small quantity of lard oil should be mixed with ordinary plaster of Paris, so that the mold that is formed will not harden too quickly. In either case, the plaster should be of the same consistency as that used for making one-piece molds. However, a mixture of gelatine and glue, which should be poured hot, will prove more satisfactory for making sectional molds of ornaments that contain much detail, because in its hardened state it is nearly as pliable as rubber, and can therefore be pulled away from any crevice or obstacle. The gelatine compound of which printers' rollers are made is a good composition to use for this purpose. It will answer equally as well as any other gelatine, and can be obtained for little or nothing from any printing concern that has discarded rollers on hand.

34. To make a sectional mold for a bust similar to that shown at *a*, Fig. 42, two boxes of equal size and shape, as shown at *b*, are required. These boxes must be sufficiently large to allow a space of at least 1 inch between the sides of the boxes when placed together and the projecting points of the pattern. Also, as in the preceding case, the boxes must be fastened together with screws or with ropes. As in making one-piece molds, both the interiors of the boxes and the pattern must be coated with shellac and then with lard oil. For this style of mold, however, a thin coating of vaseline will be superior to oil, because a string, as shown at *c*, must be placed

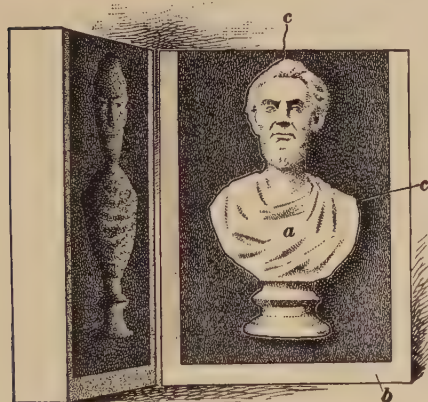


FIG. 42

entirely around the high parts of the pattern so as to divide it equally and the vaseline will serve to hold the string in place. This string, which should fit the model at every point, as shown in the figure, must be strong—a fish line will do—because its purpose is to cut the mold into two parts, as will be learned. When the pattern, or model, is pre-

pared in this manner, it is placed in the boxes with its base resting on the wood, and the boxes are then securely tied together with a rope. Care should be taken to have the pattern exactly in the center of the box and the ends of the string *c* projecting at the top. The mixture of gelatine and glue or the plaster of Paris, whichever is to be used, is then poured around the pattern until it is entirely covered and the box is filled even with the top. If necessary, a stick may be drawn across the top to make an even finish. Before the material sets—in the case of plaster of Paris, while it is still fairly soft—the sides of the boxes are carefully removed and the ends of the string pulled toward the sides of the block of material thus formed

and made to cut it into two parts. The pattern, or model, is then removed and the parts of the mold are allowed to harden, after which the mold is treated in the same manner as a one-piece mold. The object in placing the bust, or pattern, on the bottom of the box, as was mentioned, is to form an opening through which material may be poured when the two parts of the mold are placed together and inverted for the purpose of molding facsimiles of the pattern.

If the pattern for which a mold is to be made contains much detail, it may be necessary to make a mold of more than two parts or sections. In such cases, more strings will have to be placed about the model so as to cut the mold.

35. In making sectional molds for round objects, such as balls, etc., or any ornament that contains little detail, a simpler method than the preceding may be employed. In this method, a box similar to the kind used in making a one-piece mold is required. This box should be sufficiently large, however, to allow at least 1 inch of plaster of Paris or gelatine composition, whichever is used, to be placed between the inside edges of the box and the high parts of the pattern. The inside of the box and the pattern are coated with shellac and oil, as in the preceding methods, but instead of placing the pattern on the bottom of the box before pouring the molding material, it is made to rest on a cork or a tapering block of wood that is placed exactly in the center of the box bottom. The material of which the mold is to be made is then poured until the box is exactly half full, and at the same time care is taken not to allow the pattern to move off the cork. At this stage of the operation, a piece of oiled paper or oiled cardboard of the exact size of the interior of the box and cut out to fit accurately over the pattern is placed in the box. This paper must cover all the material in the box, which is really one-half of the mold, and at the same time allow one-half of the pattern, or model, to protrude. This paper is used to permit the mold to be separated easily. The material is then poured on the paper and over the pattern until the box is full. After the material has hardened, the sides of the box are removed, and the upper

part of the mold thus formed is lifted off carefully. The pattern is then taken out of the bottom part of the mold and the cork pushed out, when both parts are treated in the same manner as other newly made molds.

36. Materials for Casting Ornaments.—The material commonly used for making casts or facsimiles of ornaments in molds prepared in the manner just explained is **plaster of Paris**. This material, which is calcined gypsum, can be purchased in several grades from nearly any hardware or paint dealer. For casting purposes, it should be mixed with sufficient water to give it the consistency of thick paste, but care should always be taken not to mix more than can be used at one time, because plaster of Paris that is mixed with water sets quickly and is of no practical value after it becomes hard.

37. Papier mâché is next in importance to plaster of Paris for the making of ornaments in molds, and of greater value for building up ornaments that have a skeleton framework. The papier mâché used to mold ornaments consists of paper pulp with which is mixed a small quantity of gum dextrine, strong glue, or paste; and, sometimes, to give more body to this material, clay, powdered chalk, slaked lime, or plaster of Paris is mixed with the paper pulp and glue or whatever material is used to make it stick together. The papier mâché used to cover framework and in the molding of large designs consists of strips of paper that are coated with glue or paste and then formed into a solid mass by means of pressure, as will be explained later.

Papier mâché made in the following manner will be found suitable for molding small articles containing much detail or nearly any ornament that the trimmer desires to mold. In all cases, however, it is advisable to make up only sufficient papier mâché for the ornament that is to be molded and to use the quantity made up as soon as possible.

The first step in making papier mâché for the purpose just mentioned consists in changing paper into pulp. This is done by soaking almost any grade of soft paper in water and then tearing and breaking it into small pieces and working it into

a soft mass. The pulp thus made is taken from the water and placed in a bowl, and over it is poured a small quantity of fish glue of a good quality. As the paper pulp is taken from the water, it should be squeezed gently so as to remove some of the water; also, the glue should be hot and of about the same thickness and consistency as the glue used by cabinet-makers. Usually, about $4\frac{1}{2}$ tablespoonfuls of glue is required for every 4 ounces of wet pulp, but experience will soon enable the trimmer to tell how much to use without measuring. The pulp and the glue in the bowl are stirred until they form a soft, sticky paste. Plaster of Paris is next thrown into the paste and these materials are mixed thoroughly. Sufficient plaster of Paris should be used to make the mass so dry and thick that it can hardly be worked. More glue is then added, and the mass is worked, or kneaded, until it becomes sticky again, when a little more plaster of Paris is added. The mass is then vigorously squeezed through the fingers so as to mix it thoroughly, and this operation is kept up until the mass is free from lumps and sufficiently sticky to adhere to the surface of a planed board when a small quantity of the papier mâché thus made is rubbed on the board with the finger. If it is found to be too dry to adhere to the board, a small quantity of water or glue is added, and the mass is again worked up, when it should be ready for use. If the papier mâché cannot be used immediately, it should be rolled into a ball and kept moist by means of a wet cloth; but, as already mentioned, it should not be allowed to stand too long.

38. For making ornaments that are more substantial than those of plaster of Paris, what is known as **putty composition** is used. This is the same material that decorative picture-frame moldings are made of. Putty composition is made by mixing and kneading thoroughly 10 parts, by weight, of common putty, 1 part of common whiting, and $\frac{1}{2}$ part of plaster of Paris. It can be used successfully in molding ornaments in molds made of plaster of Paris, but not in a sectional mold made of gelatine, because the putty composition is so stiff that it will press the mold out of shape. Putty composition

is very satisfactory for beading and other small ornaments that are to be used several times.

39. For molding small, smooth objects such as hands, doll heads, etc., **clay composition** will be found desirable. This material is made by mixing thoroughly 50 parts of pulverized clay slate with a paste composed of 20 parts of paper pulp, 30 parts of plaster of Paris, and a sufficient quantity of water.

40. Molding With Plaster of Paris.—One-Piece Molds. Small, half-relief, plaster-of-Paris ornaments are simple to mold. A one-piece mold made in the manner already described is well oiled and placed on a flat surface, and plaster of Paris of the proper consistency is poured into the mold until it is completely filled. The plaster of Paris is allowed to remain in the mold until it is hard, when the ornament thus formed is carefully taken out. Any number of ornaments can be made in this manner, but the mold must be coated with oil each time, so as to prevent the plaster of Paris from adhering to it. If the half-relief ornament to be cast is a long strip of heavy molding or some large, flat piece, it should be reinforced with a strip of wood or a strip of burlap. Such material is simply embedded in the plaster of Paris after sufficient has been poured to form the design.

Sectional Molds.—For casting such ornaments as busts and similar objects in plaster of Paris, sectional molds are used. As in molding with one-piece molds, the parts of the sectional mold are first well oiled. These parts are then put together and securely fastened by means of heavy cord, and the mold is placed on a flat surface so that the mold opening is at the top. Plaster of Paris is then poured through the opening until the mold is full, but occasionally during the pouring process the mold is shaken so that the plaster of Paris will fill every crack and depression in the mold. After the plaster has set, the cord is taken off the mold and each part is carefully removed from the casting. If the molds used in casting such ornaments as these are made of plaster of Paris, there is danger of injuring the castings when the parts of the mold

are removed, but with gelatine molds there is practically no danger of this kind. However, if a piece of the casting, or molded ornament, is broken off, it can be easily repaired by means of plaster of Paris.

41. Finishing and Painting of Plaster Casts.—After a plaster-of-Paris ornament for decorative purposes has been cast and allowed to dry thoroughly, it should receive a finishing coat of shellac. The shellac will tend to harden the surface of the casting and make it serviceable. Of course, other materials may be used to give such castings a finished, hard surface, but for plaster-of-Paris ornaments that are to be used simply for decorative purposes, one or two coats of shellac are sufficient.

Instead of finishing castings in the manner just explained, it is often necessary to paint, varnish, or gild them. If the plaster-of-Paris ornament is to be painted or varnished, it should first be coated with shellac. As soon as the shellac is dry, the paint or the varnish can be applied. If the ornament, or casting, is to be gilded, it should receive a coat of white spar varnish, and over this should be sprinkled by means of a camel's-hair brush, a light coating of powdered gold. As soon as the varnish dries, the gold should be dusted off with a piece of plush, so as to produce a burnished appearance. If the plaster-of-Paris casting is to be calcimined, or painted with cold-water paint, it will not have to be coated first with shellac. Although cold-water paints in dry form, which require simply the addition of water—hot water is best, because it softens the glue—to make them ready for use, can be obtained in any paint store or decorative supply house, the trimmer sometimes has difficulty in securing the exact color he desires for a certain color scheme. For this reason, he should always keep on hand a supply of white prepared powder and a few 10-cent packages of aniline dye or dry color, which can be purchased at any drug or paint store in such shades as dark blue, cardinal, yellow, green, and golden brown, so that he can mix almost any tint or shade of cold-water paint that he requires.

42. Molding With Papier Mâché.—*One-Piece Molds.* Papier-mâché ornaments are more difficult to mold than are plaster-of-Paris ornaments. The molds, of course, are oiled as in molding with plaster of Paris; but instead of pouring the molding material it is pressed into the molds by hand. It will thus be seen that one-piece molds are more suitable for molding with papier mâché than are sectional molds, although the latter can be used, as will be explained.

For the molding of small half-relief ornaments, use is made of pulp papier mâché entirely. This material is firmly and carefully pressed into every crack and crevice of the oiled mold with the fingers, so as to produce a perfect facsimile of the original pattern. When the mold is filled even with the top, though in some cases only part of the mold is filled, it is placed in front of a heater or in the sun so that the papier mâché will dry thoroughly. After it is dry, the ornament is removed from the mold, ready for finishing or painting.

For the molding of large half-relief ornaments, both kinds of papier mâché—that made of paper pulp and that made of strips or pieces of papers—are used. After oiling the mold, the fine lines and depressions are filled in with pulp papier mâché and on top of this are built up several layers of the other kind of papier mâché. It is not advisable with large designs to fill the mold completely; usually from six to ten layers is enough. When a sufficient number of layers is formed, the mold is placed in the sun or in front of a heater, as in the preceding case, and the papier mâché allowed to dry so that it can be lifted from the mold.

The paper used in making the papier mâché employed to back up the pulp papier mâché should always be torn—not cut—into pieces 4 or 5 inches square, because the rough edges formed by tearing can be pasted better than the edges formed by cutting. These pieces should be soaked in water and then pressed into the mold one at a time, taking care to overlap each piece until the entire inner surface of the mold is covered and to press the wet paper into every depression and outline of the mold with the ends of the fingers. As soon as the first layer is formed, it should be coated with hot glue or ordinary paste

applied with a brush and another layer of paper formed. This layer should be coated with glue or paste, and the operation continued in this way until sufficient layers are formed.

Sectional Molds.—If busts and similar ornaments for decorative purposes are to be formed out of papier mâché, each part of the sectional molds used to form such ornaments is considered as a separate mold; that is, the parts are not fastened together as in molding with plaster of Paris. Each section, or part, of the mold is oiled and filled in much the same manner as large one-piece molds, both pulp papier mâché and papier mâché made up of pieces of wet paper and glue being used. Great care is taken in molding to form a perfect edge on each section of the ornament because after they are dried and taken from the molds they have to be fastened together so as to form a complete ornament. The sections of the ornament are joined by spreading glue over the edges and then firmly pressing them together. In addition, small pieces of wire shaped like a double-pointed tack with square corners are driven in here and there to help hold the sections together. The joints just formed are covered by gluing strips of paper or cheesecloth over them, and this covering material is then painted with liquid plaster of Paris or with glue and whiting, so as to produce a smooth surface for any of the finishing coats that may be applied.

43. Finishing and Painting of Papier-Mâché Casts.

Papier-mâché castings, or ornaments, are finished in the same way as plaster-of-Paris castings; that is, they are coated with shellac. If it is necessary to paint, varnish, or gild them, the directions given for painting plaster casts may be followed.

44. Molding With Putty Composition.—As has already been mentioned, putty composition can be molded successfully in one-piece molds. Ornaments of this composition are molded in the same manner as papier-mâché ornaments; that is, by pressing the putty composition into the mold with the fingers. This material dries slowly; therefore, after it has hardened sufficiently it is removed from the mold and placed where it can get plenty of air. After standing in such

a place for several days, it will become very hard and strong. Putty-composition ornaments may be finished or painted in the same manner as plaster-of-Paris ornaments.

45. Molding With Clay Composition.—Ornaments of clay composition are molded in practically the same manner as those of papier mâché or of putty composition. Therefore, what has been said about these molding materials applies equally as well to clay composition.

46. Joining Half-Relief Ornaments.—As has been mentioned, it is often desirable to fasten together two half-relief ornaments of the same design, such as shields, hearts, etc., so as to form an ornament with two sides that are alike. Such ornaments, if made of plaster of Paris or of composition, can be fastened together with glue or with plaster of Paris. The glue or the plaster, whichever is used, should be spread on the backs of the two ornaments if they have solid backs, or on the back edges if the ornaments have hollow backs, and the two objects then firmly pressed together and allowed to stand until the glue or the plaster is dry. Ornaments of papier mâché or of putty composition can be fastened together in the same manner as the parts of a papier-mâché ornament cast in a sectional mold; that is, by means of glue and pieces of fine wire bent into the shape of double-pointed tacks. In order to cover the joint formed by placing such ornaments together, a strip of paper or cheesecloth may be glued over it. If this is done, however, the material used to cover the joint should be painted or finished to match the ornaments.

BUILT-UP ORNAMENTS

47. Columns.—In Fig. 43 are shown two styles of columns the shafts of which consist of a framework of wooden strips and poultry wire covered with papier mâché. The column shown in (a) has a square base and an Ionic capital, and the one shown in (b), a round base and a Corinthian capital. In order to make a shaft suitable for such columns, a framework is first constructed out of four strips of thin wood

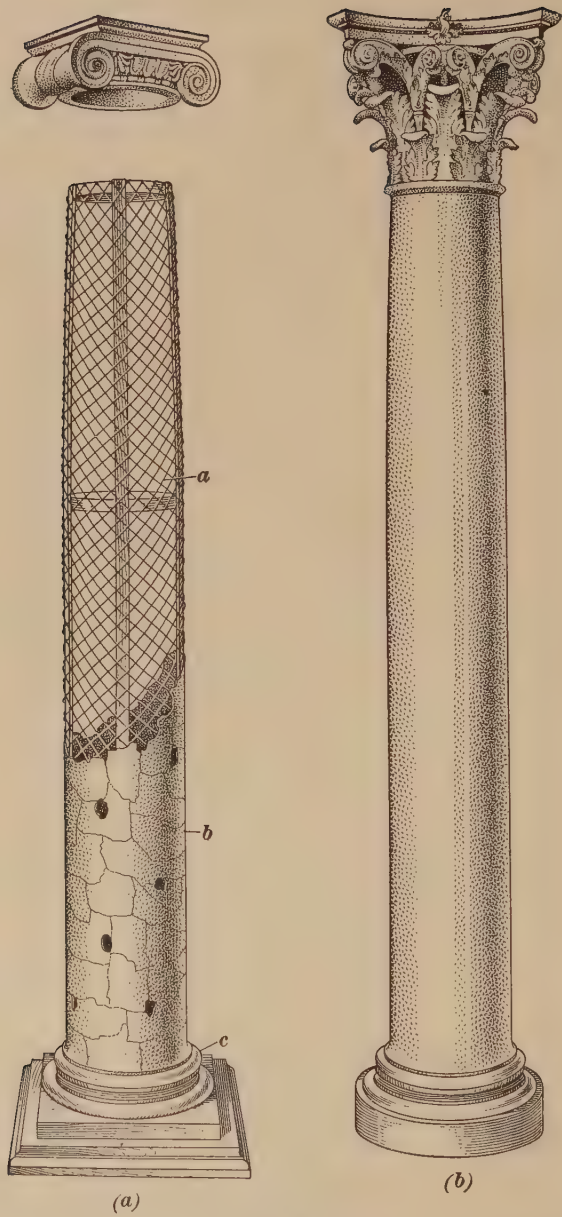


FIG. 43

and four small hoops. This framework is then covered with poultry netting, as shown at *a*, view (*a*), which is securely fastened to the wood by means of small double-pointed tacks. Next, strips of wet paper coated with glue or paste are wrapped around the wire, as shown at *b*, and at intervals holes are punched through the paper. The broken edges thus formed are brought around the wire and pressed against the inside of the paper so as to hold it securely in place. After the first layer has been put on the wire in this manner, the shaft is placed to one side until the paper is nearly dry, when several more layers are pasted on. Care must be taken to paste this paper so that it will show a smooth, even surface. After the paper has dried thoroughly the shaft is ready to be placed on its base and to be capped with its capital. Square bases like that shown in view (*a*) can be made up of square strips of wood and molding, but collars like that shown at *c* and round bases like that shown in view (*b*) are usually purchased from wood-turning establishments. The ornamental caps for such columns are generally molded in plaster of Paris or composition, and while they can be made by the trimmer, it is advisable to purchase them ready made on account of being so intricate in design. After the various parts are assembled, the columns may be painted with cold-water paint to harmonize with the decorations with which they are to be used.

48. Papier-Mâché Rabbit.—In Fig. 44 is shown a rabbit that can be used to advantage in a spring-opening or an Easter display. It consists of a framework of wood and poultry netting covered with papier mâché that is painted the desired shades.

For the framework of a rabbit of this kind it is necessary first to make two patterns—one that shows the outline of the



FIG. 44

sides and another that shows the outline of the front and the back. These patterns may be sketched on heavy wrapping paper, but if the trimmer cannot sketch, he can make use of a toy rabbit or a rabbit in the shape of a small candy box, such as can be obtained in almost any candy store. This model should be placed so that a light behind it will cast a large shadow on the wall. Any size of shadow can be cast in this way by regulating the distance between the light, the model, and the wall. Then by tacking a sheet of paper on the wall, so that the shadow falls on the paper, the design, or rather the outline, can be traced on the paper with a lead pencil, a piece of artists' crayon, or a piece of chalk. This method of drawing the outlines for a pattern should be remembered, because it can be followed in making patterns for any other object. After the patterns for the sides and the front and back have been drawn, they should be cut out. They may then be sent to a wood-working establishment, where the framework may be sawed out, or the trimmer may use them himself and cut out the framework with a compass saw. The way first mentioned, however, is preferable, because much time can be saved and, besides, the curves will be more accurate if cut out with a band saw.

A good idea of the framework made from such patterns will be gained by referring to Fig. 45. It may be well to mention, though, that boards the full width of the patterns do not have to be used. Boards sufficiently wide to permit the contour of the front, back, and sides to be sawed out will do, because they can be fastened together with cleats, as shown. In this illustration, the cut-out board for the sides is shown in view (a), and the boards for the front and the back are shown respectively at *b* and *c*, in view (b). In addition to these boards, it is necessary to form the legs and feet of the rabbit, but these are so simple to make that no pattern is required.

The method of fastening these boards together, so as to form the framework of the rabbit is as follows: First, the pattern for the sides is laid on a flat surface, and the boards *a* for the sides are placed on it and secured by means of cleats, one placed near the top and one near the bottom, as shown

in view (c). The boards *b* and *c* for the front and the back are then laid on their pattern, and the position of the cleats marked with a pencil. These boards are then placed in the manner shown in view (d), and the cleats nailed in place. In

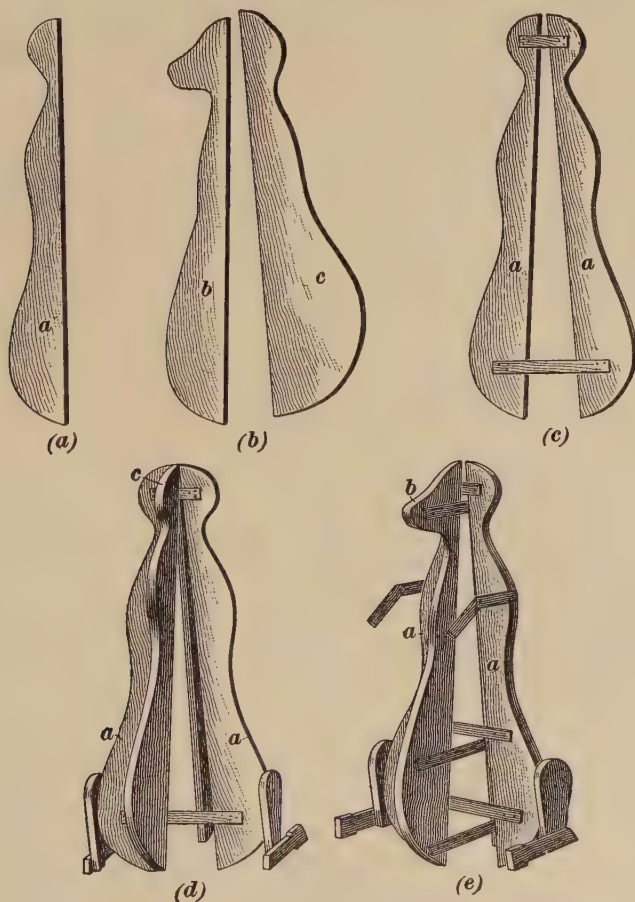


FIG. 45

this way the true outline of the rabbit is obtained. More cleats are then nailed to these boards, as shown in view (e). It is advisable to place all the cleats so that one will rest on the other, thus permitting them to be nailed together so as to

make the framework rigid. The framework arranged in this manner is ready to be covered with poultry netting. Although the illustration shows the legs and feet in position, they should not be nailed to the framework until it is covered with the poultry wire.

As in covering the framework of columns, the poultry netting placed around the framework of the rabbit is secured in place by means of double-pointed tacks driven into the wood. In covering this framework, or skeleton, the trimmer should be careful not to make the bends too sharp, but should aim, rather, to secure a graceful rounded form. The netting can be easily shaped by denting it here and there and pulling it out in places that require a raised shape, as, for example, the shoulders and the abdomen. At the neck, the netting should be pushed in, and at the lower part of the back it should be pulled outwards. With a little practice the desired result will be quickly obtained. After the body is carefully covered, the framework for the feet and legs should be nailed in place and covered with netting. The ears and the tail are then formed out of netting and secured in their proper places, after which the papier mâché is put on. The ears are made by cutting the netting into the shape of a long, pointed leaf, and then bending them lengthwise so as to give them the proper rounded and hollow shape of a rabbit's ear.

The netting on the framework is covered with papier mâché in practically the same manner as the shafts of the columns previously described. Particular care, however, must be taken in building up the papier mâché around the mouth, nose, and eyes. For the eyes, use is made of large glass marbles painted to represent natural eyes. These are put in place after a few layers of papier mâché have been put on, and are held in place by building papier mâché around them. For the eyelashes and feelers, broom straws or pieces of fine wire of the proper length and painted either brown or black are inserted in their proper places. Other parts, such as the nostrils, the mouth, and the toes can be made distinct by means of paint and a brush. The toy rabbit or candy-box rabbit previously mentioned makes a good model to follow in painting and

finishing a rabbit of this description. Of course, small points not mentioned here may come up in making papier-mâché ornaments of this kind, but by practice and the exercise of a little ingenuity, the trimmer should overcome any difficulty he may encounter.

49. Papier-Mâché Egg Shell.—Fig. 46 shows an ornament in the form of a broken egg shell, in which is placed a papier-mâché rabbit made in the



FIG. 46

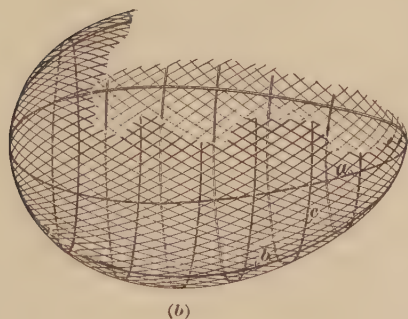
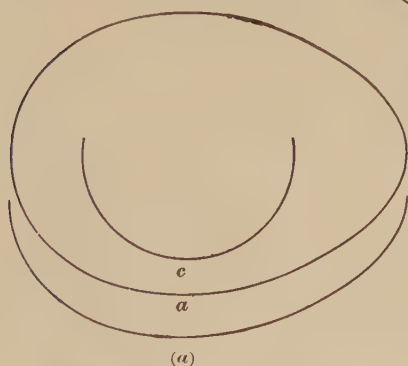


FIG. 47

manner just explained. An ornament of this kind, with or without the rabbit, will be found appropriate for Easter displays. It consists of a framework of heavy wire and netting covered with papier mâché. The several shapes of wires required for the skeleton, or framework, are shown in Fig. 47 (a). To the oval-shaped wire *a* are fastened by means of fine wire the ribs *b* and *c*, as shown in view (b). This skeleton is covered with poultry netting, which is firmly secured with fine wire and trimmed so as to leave rough edges

to represent the broken shell. The papier mâché is then placed on the netting in the manner already explained.

50. Papier-Mâché Santa Claus.—In Fig. 48 is shown a papier-mâché Santa Claus, such as is used in displays during the Christmas holiday season. This ornament is made in the same manner as the papier-mâché rabbit previously described; that is, patterns are first made by drawing the outline freehand or by casting shadows, pieces of material are then sawed out for the framework, the framework is then put together and



FIG. 48

covered with poultry netting, and this, in turn, is covered with papier mâché. Instead of making a face out of papier mâché, use can be made of an ordinary Santa-Claus false face fitted with glass eyes or with marbles painted to represent eyes; also, for the hands, regulation wax, composition, or flexible hands can be used.

Fig. 49 will serve to give a good idea of the parts required for the framework of a papier-mâché Santa Claus, as well as the manner in which they are put

together. The boards *a* and *b* for the front and the back, respectively, are nailed at the points *a'* and *b'* to an oval-shaped piece *c* formed out of several strips held together with cleats; and the boards *e* for the sides are nailed at the points marked *e'*. These boards are braced by nailing them at the top to a center strip *d* inserted in the hole *d'* in the center of the oval. The pieces *f*, *g*, and *h*, which form the legs and feet, are then nailed to the bottom of the oval-shaped boards *c* and securely braced, as shown. In this condition, the framework is carefully covered

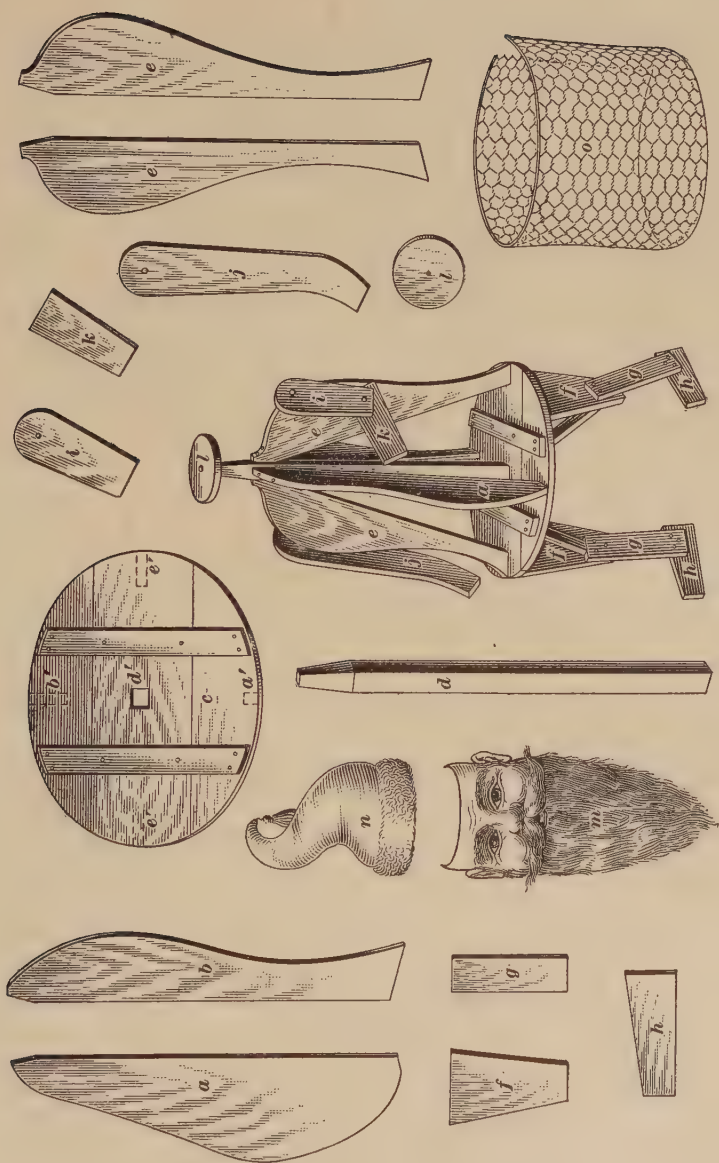


FIG. 49

with poultry netting, after which the boards *i*, *k*, and *j*, which form the arms, and the piece *l* for the support of the false face *m* and the cap *n* are put in place and covered with netting. The framework is then ready to be covered with papier mâché, which is applied in the manner already described and finished to represent the typical costume of Santa Claus. The bag at the side of the papier-mâché form in Fig. 48 consists simply of a wire-netting frame, without wood, as shown at *o*, Fig. 49, covered with papier mâché.

It may be well to mention here that instead of covering a framework of this kind with papier mâché, it can be dressed with clothing made of the proper shades of cotton flannel; also, instead of a papier-mâché bag, a regular burlap bag can be used.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 3)

ARTIFICIAL FLOWERS

REMARKS

1. Among the materials used in the decoration of show windows and store interiors, nothing so enhances the value of an exhibit or supplies so well a refined, artistic atmosphere as **artificial flowers**. Such flowers can be purchased from dealers in decorative supplies or direct from the manufacturers, or they may be made by the window trimmer. Factory-made artificial flowers come in a variety of forms, as, for example, sprays, vines, garlands, bouquets, and blossoms. The common grades are usually made of muslin, and the better grades of silk and velvet. For the other style of artificial flowers—that is, those made by the trimmer—crêpe paper and tissue paper are used.

The kind of artificial flowers to use depends considerably on the amount of money that can be expended for displays. When viewed from a distance, flowers made of either crêpe or tissue paper can hardly be distinguished from those made of muslin, silk, or velvet; nevertheless, they are not always so effective. The art of flower making has reached such perfection that flowers made of muslin, silk, or velvet nearly always deceive the eye; indeed, when seen from a short distance, it is almost impossible to tell whether or not they are natural flowers.

They are much more satisfactory and far less expensive than natural flowers, because if they are well taken care of they will last indefinitely and will always show the same degree of freshness. Factory-made artificial flowers may be considered rather expensive for the first display, but when the number of times they may be used is taken into consideration, they will prove to be decidedly economical so far as outlay is concerned.

2. To a great extent, the seasons should govern the kind of artificial flowers to use in decorations. Thus, it will be found appropriate to make use of Easter lilies, tulips, and violets, and apple, cherry, and peach blossoms in the spring; daisies, roses, carnations, palms, and ferns in the summer; grape vines with their clusters of fruit, purple asters, chrysanthemums, and autumnal, tinted leaves in the fall; and evergreens, holly, ferns, palms, and poinsettias in the winter. However, as nearly all kinds of natural flowers can be obtained at any time of the year, artificial flowers of nearly any kind may be used whenever it is deemed advisable. It is not uncommon to utilize summer flowers in displays made in the winter, especially those intended to attract persons who spend winter vacations in the South. Such flowers not only lend a softening tone to displays made in the dreary winter months, but tend to brighten them. Nevertheless, as the goods displayed in a show window must as a rule be seasonable, it is advisable to make use of decorative materials that are in keeping and in close and perfect harmony with them.

3. To give a good idea of the artificial flowers that can be purchased, some of the different sprays, garlands, bouquets, wreaths, etc. that are commonly used in the large and exclusive stores are illustrated and described here. The methods of making artificial flowers from both crêpe and tissue paper are then taken up, so that the beginner can learn how to make flowers that will prove useful in forming attractive window displays and interior decorations.



FIG. 2

FIG. 1

EXAMPLES OF ARTIFICIAL FLOWERS

4. **Orchids and Ferns.**—Fig. 1 shows a bouquet of orchids and ferns that will be found excellent to use in displays of white goods. The orchids can be obtained in different colors, such as pink, lavender, and purple, but the ferns are always a natural green, being carefully prepared and then dyed the natural shade.



FIG. 3

5. **Carnations and Maidenhair Fern.**—Fig. 2 shows a bouquet of carnations and maidenhair fern. Carnations can be obtained in various colors, such as white, pink, red, and variegated, and when made into bouquets with sprays of the delicate and graceful maidenhair fern they are extremely attractive. Bouquets of this kind are suitable for use with almost any line of merchandise and at all seasons of the year.

6. Roses.—Roses, which can be obtained in many shades and colors, from white to deep, rich red, can be used to advantage in nearly any kind of display.

In Fig. 3 is shown a bouquet of artificial *American Beauty* roses. Roses of this variety, on account of their deep-red color, are unsurpassed for any display of merchandise, no matter at what season of the year it may be made. They lend a certain



FIG. 4

richness to displays that is not otherwise obtainable, and are particularly effective because they are admired by nearly every one.

Fig. 4 shows a vase of *La France* roses. This variety of rose is very attractive. Its delicate pink tones make an exceedingly artistic effect in displays of white goods, tea gowns, and lingerie.

7. Black-Eyed Daisies.—A garland consisting of green foliage and black-eyed daisies, which have dark centers and yellow petals, is shown in Fig. 5. Such garlands may be



FIG. 5



FIG. 6

used with equal effectiveness on many occasions. They will be found useful in displays of such merchandise as millinery, women and children's wear, men and boys' clothing, shoes, etc.

8. Apple, Cherry, Peach, and Orange Blossoms.

Fig. 6 illustrates a spray of apple blossoms. Sprays of cherry, peach, and orange blossoms can be obtained in the same style. Apple blossoms are usually white or white tinged with pink; cherry blossoms, white; peach blossoms, a deep pink; and orange blossoms, white tinged with yellow, that is, cream color.



FIG. 7

Sprays of blossoms are used considerably for spring decorations in both show windows and store interiors.

9. Star-Flower Bush.—Fig. 7 shows what is known by artificial-flower makers as a star-flower bush. A pot of flowers of this description makes a superb decoration when placed on a pedestal or on the floor of a show window. For decorating

store interiors, it can be placed to advantage on a ledge or on the end of a counter.

10. Hanging Basket of Foliage.—In Fig. 8 is shown a hanging basket tastefully filled with palms, begonias, and several other kinds of blossoms and foliage. A basket of this style creates a very pretty effect when suspended from a ceiling or a bracket or some similar fixture.



FIG. 8



FIG. 9

11. Chrysanthemums.—A cluster of chrysanthemums is shown in Fig. 9. This attractive flower comes in many colors—white, yellow, pink, lavender, etc.—and for this reason can be used to work out many color schemes. Chrysanthemums are especially desirable for fall decorations, November being the month in which this flower blooms.

12. Grape Vines.—For making effective fall decorations in both show windows and store interiors, grape vines with their fruit and foliage cannot be excelled. Fig. 10 shows how a trellis may be covered with artificial grape vines, foliage, and



FIG. 10

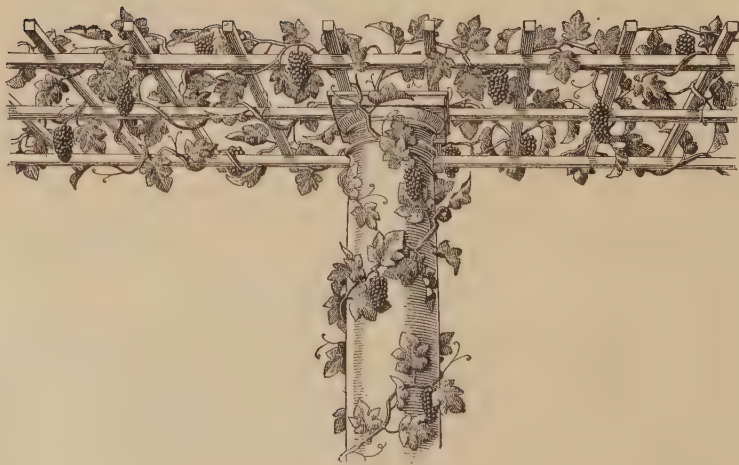


FIG. 11

clusters of grapes, and Fig. 11 shows how they may be arranged on an arbor. There are also many other ways in which grape vines may be utilized to form attractive decorations.



FIG. 12

13. Holly and Poinsettia.—For forming Christmas decorations, holly with its dark-green foliage set with deep-red berries and poinsettia with its richly colored red flowers find considerable use. As made by artificial-flower manufacturers, holly comes in various shapes, such as garlands, sprays, and bouquets, ready for use. The garlands and bouquets are made up of holly alone or of holly combined with maidenhair fern, poinsettias, etc. It is also possible to obtain holly foliage in white or silver. Foliage of this kind combines especially well with the bright-red poinsettias.

Figs. 12 and 13 show garlands of holly ready for the show window or for an interior display. Fig. 14 shows a few sprays of holly in a pot, which may be a birch-bark or a cork pot, or



FIG. 13

ordinary flower pot. Pots of holly are very attractive when placed on pedestals. In Fig. 15 is shown a shower bouquet of holly intertwined with maidenhair fern, and in Fig. 16 is illus-



FIG. 14



FIG. 15



FIG. 16

trated a garland made up of the same materials. Fig. 17 shows a neat arrangement of poinsettias and holly. The poinsettias appear to be growing from the prongs of an imitation stump,



FIG. 17

which consists of pieces of bark nailed to a frame, and on the stems that support the flowers are fastened silver holly leaves.



FIG. 18

14. Silk Moss.—Fig. 18 shows a package of moss such as is used to cover the floor of show windows when a grass effect is desired. It is really natural moss dyed a natural green color.

15. Begonia Plant.—Fig. 19 shows a large six-leaved begonia plant in a wickerwork pot. Potted plants of this style, whether placed directly on the floor or on pedestals, can be used to advantage in window displays. They are also suitable for ledge-and-column decorations.

16. Boxwood Trees.—For ledge and counter decorations, as well as for outdoor scenes in show windows, potted boxwood

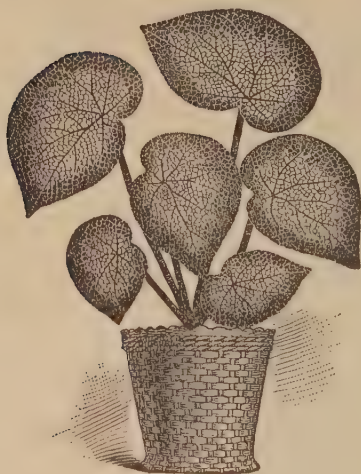


FIG. 19



FIG. 20

trees like that shown in Fig. 20 are used considerably. Although the tree illustrated has a pyramidal shape, round-shaped trees can also be obtained.



FIG. 22



FIG. 21



FIG. 23

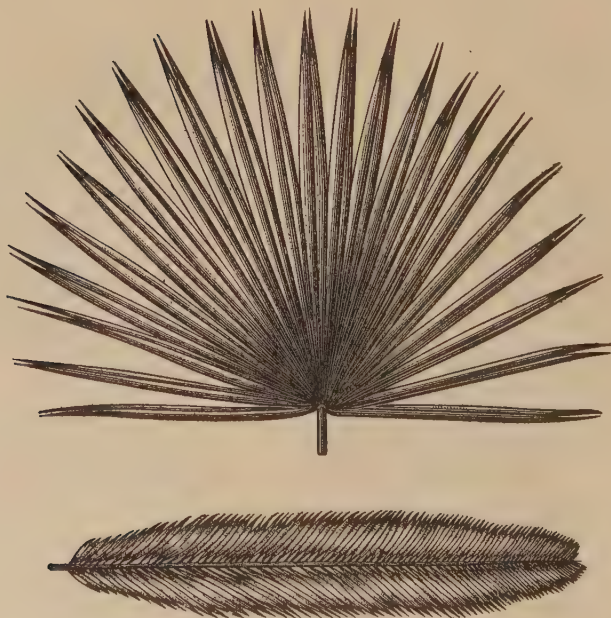


FIG. 24

17. Beech Trees.—Fig. 21 shows a small, potted beech tree. Trees of this kind are used for practically the same purposes as boxwood trees, but are usually somewhat larger.

18. Palms and Palm Leaves.—For general decorative purposes, palms and palm leaves have no equal. In many



FIG. 25

instances, palms can be utilized when other artificial flowers or foliage would be out of the question. They come in many styles, and leaves of various shapes can be procured. Fig. 22 shows what is commonly known as a *Kentia plant*, being one of the feather palms. When potted in the manner shown in the illustration, it can be used for the same purposes as any

other potted plant. In Figs. 23 and 24 are shown several styles of palm leaves that will be found useful for various decorations. Palms and palm leaves for decorative purposes are prepared by drying the natural leaves and then painting them with green oil paint or dyeing them the desired shades.

19. Leaves for Decorative Purposes.—In Fig. 25 is shown an assortment of fireproof muslin leaves that are made in natural green or in the bright fall hues. Every detail of the natural leaves is carried out in making these artificial leaves, so that they can scarcely be distinguished from real ones. On account of their fireproof qualities, such leaves can be used in places where it would be impossible to use natural foliage. Many of the leaves shown will be found suitable for use in connection with the making of artificial flowers out of crêpe and tissue paper. Following are the names of the leaves shown in this illustration: *a*, orange; *b*, Virginia creeper; *c* and *d*, German maple; *e*, chestnut; *f*, lilac; *g*, apple; *h*, American maple; *i*, *j*, *n*, *o*, and *p*, grape; *k*, American oak; *l*, ivy; *m*, hydrangea; *q*, rose; and *r*, German oak.

PAPER FLOWERS

GENERAL INFORMATION

20. As already mentioned, both crêpe paper and tissue paper are used for flowers that are to be made by the trimmer. Such paper comes in many shades and tints and is inexpensive. With a little practice, paper flowers can be made quickly, and the work is both interesting and pleasing. In all cases, it is necessary to use patterns, and to save time the paper from which the flowers are to be made should be folded into several thicknesses so that a number of parts can be cut out at one time with a sharp knife or a pair of shears. In cutting flower petals out of crêpe paper, care should be taken that the grain of the paper is **V**-shaped from the bottom of the petal upwards. Also, in using crêpe paper, the trimmer should bear in mind that the right side of a roll of paper is the side that is folded in.

21. Examples of Flowers.—As the natural flower or blossom is the only perfect one, the best results in making paper flowers will be obtained by copying as accurately as possible all the details of the natural flower. It is therefore essential that the trimmer should have a knowledge of the formation of any flower that he is about to duplicate in paper. Many



FIG. 26



FIG. 27

of the artificial flowers already shown, as well as those illustrated in Figs. 26 to 28 will serve to give the trimmer a good idea of many of the flowers that can be made of paper. Any flower not shown in this Section can, of course, be copied from nature. Fig. 26 shows a stalk of an Easter-lily plant with three lilies; Fig. 27 (a), a wistaria vine with clusters of flowers

attached; Fig. 27 (b), a fleur-de-lis; Fig. 27 (c), a tulip; Fig. 28 (a), a cluster of carnations attached to one stem, although such flowers can be made with separate stems; Fig. 28 (b), a large curled chrysanthemum; and Fig. 28 (c), a La France rose.



FIG. 28

22. Leaves for Paper Flowers.—The leaves to be used with paper flowers can be purchased ready made, but, unless they are too complicated in shape, it will be found more economical to make them. Leaves are made simply by cutting the desired shapes out of green tissue paper. Before cutting



FIG. 29

out leaves, however, the tissue paper has to be properly prepared. Usually two sheets are well covered with paste and stuck together and then quickly dried near a hot stove. In this way the paper becomes stiff and assumes the appearance of regular leaf texture. It is advisable in cutting out leaves to leave a small projection at the bottom so that they can be



FIG. 30

secured to flower stems. Ideas of leaves suitable for paper flowers can be formed by referring to Fig. 25 as well as to Fig. 29. In Fig. 29 are shown leaves as follows: *a*, holly; *b*, rose; *c*, chrysanthemum; *d*, ivy; *e*, fern; *f*, apple or cherry; *g*, wistaria; *h*, geranium; and *i*, grape. Ideas of leaves not shown in this Section can be formed by observing nature.

23. Parts of a Flower.—In order that the beginner may understand the directions for making paper flowers and thus go about the work intelligently, it may be well to name the parts of a flower, or blossom. A flower consists of four parts, namely, the *calyx*, the *corolla*, the *stamens*, and one or more *pistils*, all of which are supported by a *stem*. The stamen and pistils form the center of the flower. The corolla forms the inner circle or set of leaves, and is the part that gives the flower its color. Each individual part of the corolla is called a *petal*. The calyx is the outermost series of leaves, which are usually green, and each part of it is known as a *sepal*.

Fig. 30 shows some of the parts of flowers that can be purchased ready made for use in making paper flowers. The part shown at *a* is a flower center made up of pistils, stamens, and a stem. At *b* is shown a calyx consisting of five sepals; at *c*, seed cups; at *d*, a corolla with sixteen petals; and at *e*, a bunch of parts that may be used as pistils or stamens. Of course, it is not absolutely necessary to purchase such parts, because they can be made out of paper if desired.

PAPER-FLOWER MAKING

24. Paper flowers are made by first cutting out the necessary parts according to patterns made up from natural flowers and then fastening them together with thin, pliable wire. The wire used for this purpose should in most cases be sufficiently long to form a stem or to permit the flower to be fastened to a stem.

The petals of some flowers are so long and slender that it is necessary to use a piece of wire to hold them in shape and give them the necessary graceful curves. In such cases, two pieces of paper are generally used to form the petal. These are covered with paste or glue and then laid together, the piece of wire being placed between them. This wire should be about an inch longer than the petal, and should be made to project from the base of the petal so that it can be fastened to the flower stem.

Sometimes it is necessary to give an artistic finish to paper flowers by tinting the petals. This can be done with an air brush, by means of a soft brush and thin paint, or by dipping the petals in aniline dyes.

25. The stem of a flower is formed by covering the wire that projects from the flower with green crêpe paper or green tissue paper. A strip of paper about $\frac{1}{2}$ inch wide is first wound a few times around the wire close up to the flower or blossom, so as to prevent it from slipping down and also to form a part of the calyx. The paper is then twisted around and around until the entire wire is covered, the paper being held loosely with the left hand and wound with the fingers of the right hand. The paper is fastened at the end by means of paste. In many instances, trimmers chew gum when making flower stems so that they can use a small piece of it to fasten the end of the paper.

If a stem is to be padded, a 3-inch strip of crêpe paper of any shade should first be wrapped around the wire and then covered with green crêpe or tissue paper in the manner just described.

If leaves are to be added to the stem, they should be secured to the covered wire with a little paste or glue, and afterwards a strip of green paper should be wound around the stem in such a manner as to cover the attached ends of the leaves.

26. In order to save time, such paper flowers as apple, peach, or cherry blossoms can be attached directly to a real tree branch. In such cases, only short pieces of wire are needed for the stems and sometimes no wire is needed at all. The blossoms are simply twisted twice around these branches. The flower should be held close to the branch with one hand while the first twist is being made, and the part that is twisted should then be held while the second twist is being made. In this way all the strain is prevented from coming in one place. In the first attempts, the petals may be twisted off by the hand, but practice will soon overcome this difficulty.

27. Following are descriptions of the manner in which paper flowers of various kinds can be made. The patterns

illustrated are full size and may therefore be used to make paper flowers of the same size as natural flowers. To employ the illustrations for this purpose, it will be well to trace the patterns on transparent paper laid on the patterns, cut out the patterns thus drawn, and from them make working patterns out of cardboard.

28. Carnations.—A paper carnation [see Figs. 2 and 28 (a)] is made as follows: Fold separately five or six pieces of tissue paper 6 inches square and of the desired color or shade into eighths and cut each folded piece according to the pattern shown in Fig. 31 (a). Fringe the top edges as indicated in the illustration, and then unfold each piece and crimp the edge of each petal so as to round them and thus form the shape of the flower. Crimping is done by pressing the paper into little folds between the thumb and the forefinger against the edge of a scissors blade, beginning at the left and working away from you. Next, fasten a small piece of cotton to the end of a long piece of thin wire, so as to form a flower center, and file the sets of petals on the wire. Pinch them well up around the cotton and fasten them with a piece of thread or a small piece of wire. Next, cut a calyx similar to that shown at *b*, Fig. 30, out of green crêpe paper and file it on the wire. Then pad the wire, and finally wind it with green crêpe paper, inserting leaves of medium dark-green tissue paper.

29. Easter Lilies.—As shown in Fig. 26, the Easter lily is composed of six petals, a pistil, and several stamens. To make a lily out of paper, proceed as follows: Cut the required number of petals out of white crêpe paper according to the pattern illustrated in Fig. 31 (b), and wire them through the center, as shown in the pattern, or make them up in the manner previously explained for petals that are long and slender. Next form the stamens by rolling light-green tissue paper almost to a thread and cutting this rolled tissue into $4\frac{1}{2}$ -inch lengths. Make the pistil in the same manner, but do not roll the paper so fine. This part should be $5\frac{1}{2}$ inches long and a ball, or head, should be formed on the top. The flower is now ready to be assembled. Surround the pistil with the stamens,

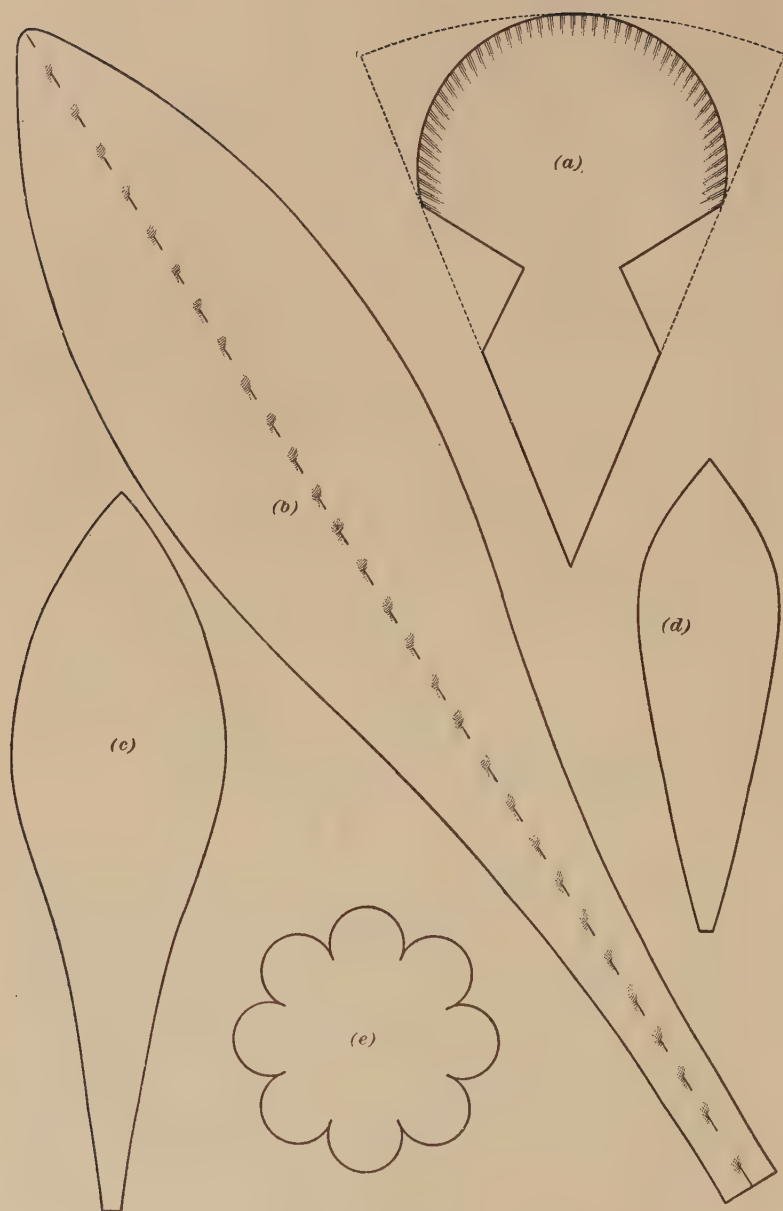


FIG. 31

and fasten them together with a piece of fine wire that is sufficiently long to hang down and form the stem. Pad the stem in the manner previously explained, covering the wire used to hold the pistil and stamens together with the paper used for padding. Put glue on the edges of the petals about half way up from the base and paste them in the manner they occur on a natural flower to the center formed by the pistil and stamens. Beginning at the base of the flower thus formed, wind a $\frac{1}{2}$ -inch strip of green crêpe paper around the covered wire so as to form the stem, inserting seven or eight crêpe-paper leaves about 6 inches long and $1\frac{1}{2}$ inches wide along the stem at the same time. When dry, the petals that form the flower should be opened by bending them gracefully outwards.

If several flowers are to be placed on one stem, as shown in Fig. 26, the flowers should be formed first and then secured to a separate stem. If desired, Easter lilies made of paper can be finished by dipping them quickly into hot paraffin and shaping the petals just as this substance is cooling. The paraffin will give the flowers a waxy appearance.

30. Narcissus.—To make a narcissus of paper, proceed as follows: Cut six petals out of either white or yellow crêpe paper according to the pattern shown in Fig. 31 (c), and reinforce them through the center with wire. Form a cup for the center of the flower by winding a small piece of yellow crêpe around a pencil and twisting this paper tight at the bottom. Slip the cup off the pencil, arrange the six petals around it, and wire the petals and the cup together. Attach the flower thus formed to a 9-inch wire stem, and finish by winding the stem with green crêpe, bending the petals outwards, nearly flat, and tinting the edge of the cup with red ink or red tinting fluid. The leaves for this flower are long and narrow, and are curved at the end instead of pointed. A scale of paraffin paper, which can be purchased from dealers, may be added to the stem, near the flower, if it is desired to create a more realistic effect.

31. Jonquils.—To make a paper jonquil, first cut out six light-yellow crêpe-paper petals according to the pattern

shown in Fig. 31 (*d*) and a piece of crêpe for a center tube according to the pattern shown in Fig. 32 (*a*). Glue the side edges of the paper cut out for the center piece and stick them together, forming a tube with a fluted top. Next gather the tube at the bottom, and attach a wire stem to it by twisting the wire around the part of the tube gathered at the bottom. Pad the wire with yellow crêpe, forming a little bulb at the base of the tube. Next glue the petals firmly to the tube, making sure to have them placed properly, and then, beginning below the bulb, wind the stem with green crêpe and attach one long, narrow pasted tissue leaf that is rounded at the top. Glue a scale of paraffin around the stem about 1 inch below the flower, and finish by spreading the fluted end of the tube center and pulling each petal gently sidewise.

32. Daffodils.—Paper daffodils are made in much the same manner as jonquils. The petals should be cut out of yellow crêpe paper according to the jonquil petal pattern, but the tube for the flower center, which is the same color as the petals, should be a little more than twice as long as that used for the jonquil and should be full instead of hollow. The position of the petals can be easily determined by observing those on a natural flower.

33. Violets.—To make a *small violet*, use petals of a medium shade of violet tissue cut according to the pattern shown in Fig. 31 (*e*). Take two petals, placing one inside of the other so that the divisions will alternate, and twist the bottoms together at the center. Next form the stem by gluing on a strip of green tissue $\frac{1}{4}$ inch wide and 4 inches long and twisting it through the fingers and thumb. Another way of making the stem consists in fastening a piece of wire to the twisted part of the petals and then covering it with green tissue. The leaves for violets of this kind should be a dark olive green.

34. To make a *larger violet* than the preceding, cut violet shades of tissue paper according to the pattern shown in Fig. 33 (*a*). Each piece of paper thus cut out will make one

flower. Crumple each piece in the fingers and form a cup shape at each end. Complete the flower by laying a strip of green tissue across the center and forming a stem out of it in the manner explained in the directions for making a small violet.

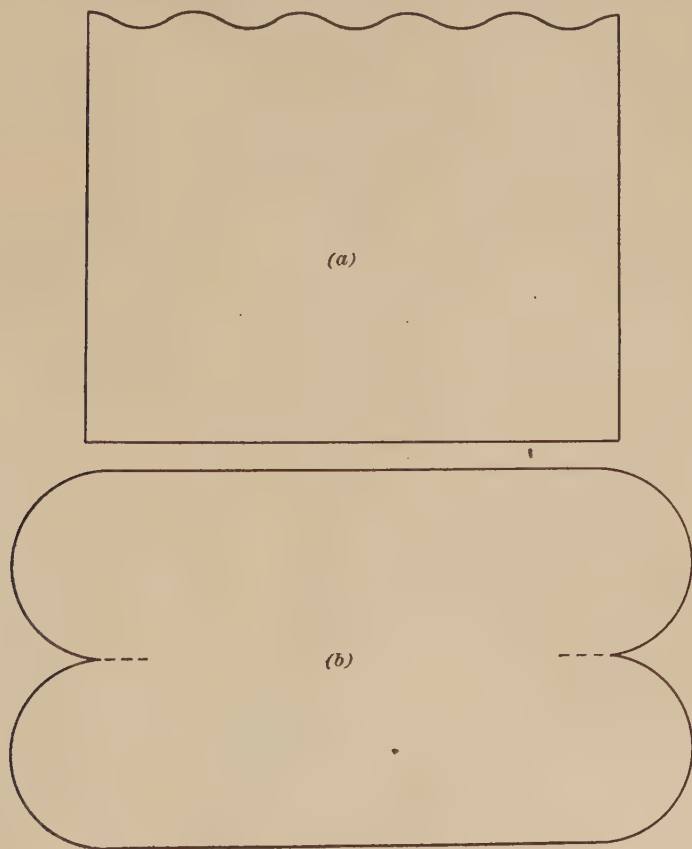


FIG. 32

35. Apple Blossoms.—To make an apple blossom, cut tissue paper according to the pattern shown in Fig. 32 (b), and then form the flower by twisting the piece of cut-out tissue on a tree branch. Blossoms made from this pattern will have only four petals instead of five, but for decorative

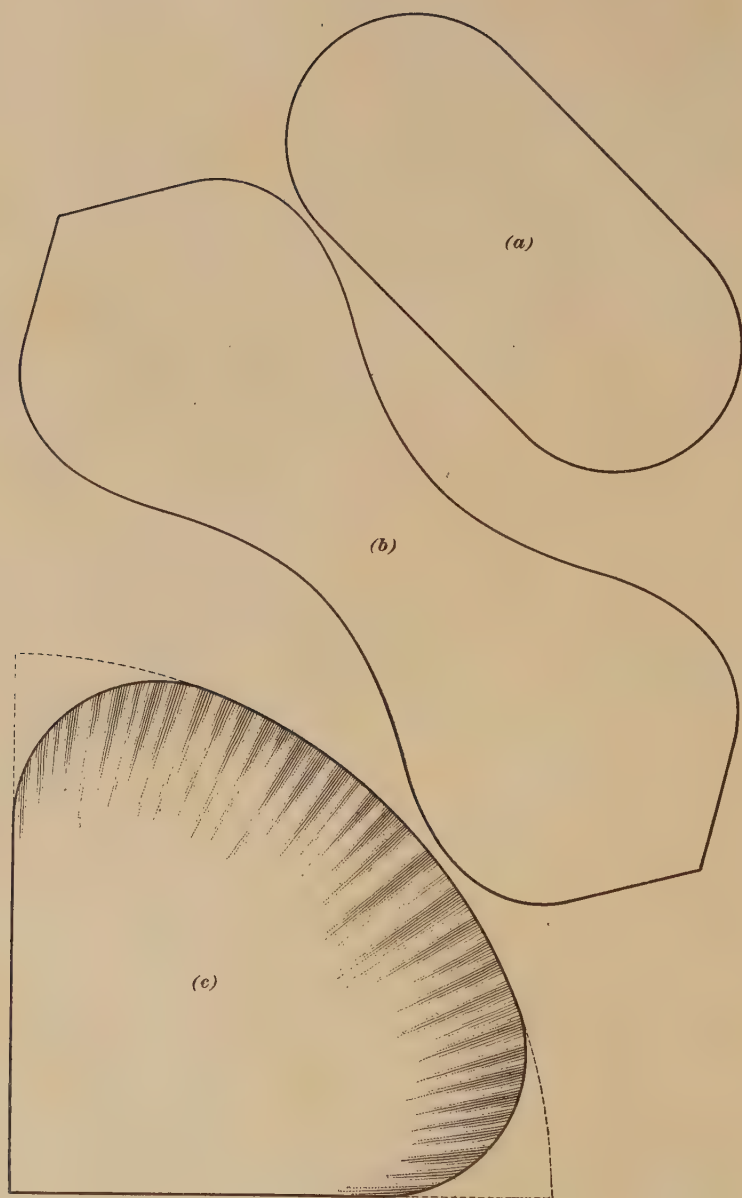


FIG. 33

purposes this makes no difference. If it is desired to use a center for the blossom, cut out a piece of white crêpe paper $1\frac{1}{2}$ inches long and 1 inch or less wide, across the grain, and slash the ends. Lay this paper on the paper cut out for the petal and twist them on the branch together. It may be well to remark, however, that blossoms are usually made without centers.

In order to cover a branch in the manner shown in Fig. 5, many blossoms will be needed. For this reason, it is advisable to cut out a large number of petals before twisting them on the branches. Usually, white blossoms and white-and-pink blossoms of one size and pink blossoms of a smaller size are used on a branch for the sake of variety. The white-and-pink blossoms are formed by using two pieces of tissue cut according to the pattern—an upper layer of white and a lower one of pink—and twisting them together to form one flower. If larger flowers are needed, some pieces of tissue paper as large as $4\frac{1}{2}$ inches long and $3\frac{1}{2}$ inches wide may be used. These pieces should have four lobes instead of two cut on each end, and a blossom should be formed out of each end before twisting the paper on the branch.

36. Flowering Dogwood.—The blossoms of flowering dogwood are formed directly on tree branches—elm-tree branches are the most satisfactory—and for this reason many parts should be cut out at one time. To form a flower of this kind, use two pieces of white crêpe paper cut with the grain and according to the pattern shown in Fig. 33 (b) and a center of green crêpe 1 inch long and $\frac{3}{4}$ inch wide. Curl the ends of the petals and give a little twist to the pointed ends so as to make them appear like petals of natural dogwood flowers. Place the pieces that form the petals side by side and pinch them together at the middle; also, lay a green center likewise pinched together on top of them. Fold these parts around the tree branch and twist them on. Then finish the flower by spreading out the ends at right angles to each other, having the points dip downwards, and press hard on the center to give shape to the flower.

In arranging a large number of dogwood blossoms on a branch, it will be well to remember that all flowers face the same way in broad planes. They are scattered along the branches singly and in groups, but not so as to touch one another. For this reason, every blossom tilts, and as each blossom is somewhat heavy, it has a tendency to slip around the stem. To hold them firmly in place, it is advisable to use a drop of glue for each flower. The glue should be put on at the point where the flowers cross when twisted on, but it is best to do this after all the flowers are placed on the branch. In such cases, the flowers should not be opened until the glue has set.

Rose-colored dogwood flowers may be made in the same way as the blossoms just described.

37. Poppies.—For poppies, use is made of dark, ruby-red tissue paper that has been made soft by crushing it in the hands and then smoothing it out. Form the petals by folding sheets of this paper 6 inches square into fourths and then cutting them according to the pattern shown in Fig. 33 (c). Open each sheet thus folded and cut, which should contain four petals, and place three of them together. Crimp the edge of each cluster of petals on the blade of a scissors; that is, beginning at the left and working from you, press the edges into little folds between the thumb and forefinger. Crimping in this way serves to round the petals and to give shape to the flower. Separate the petals and file them on a wire attached to a ready-made poppy center or a center formed out of paper. Finish by winding the stem and inserting two leaves of olive green.

Poppy buds are made in practically the same manner as poppies; the only difference is that the petals are cut smaller and the buds are made more compact.

38. Roses.—For *Jacque roses*, tissue paper for the petals should be cut according to the pattern shown in Fig. 34 (a), about twenty petals being required for one rose. Roll the tops of each of the petals from you over a crochet needle, and, with the thumb and the forefinger of each hand, push the petals together. This operation will give both a curled and a crinkled effect to the petal. Next, curl the sides of each petal

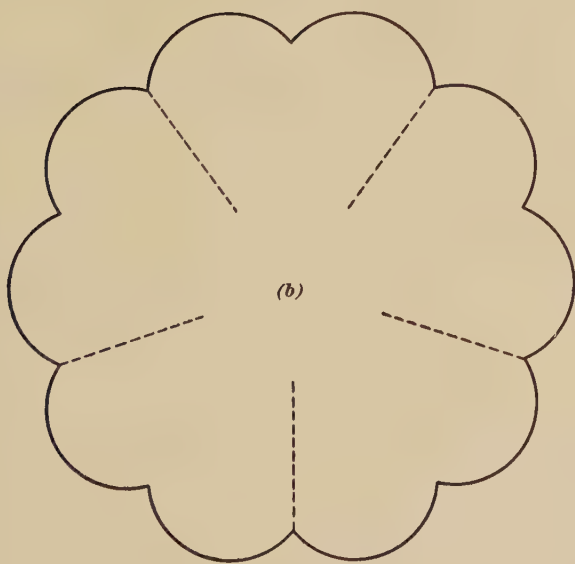
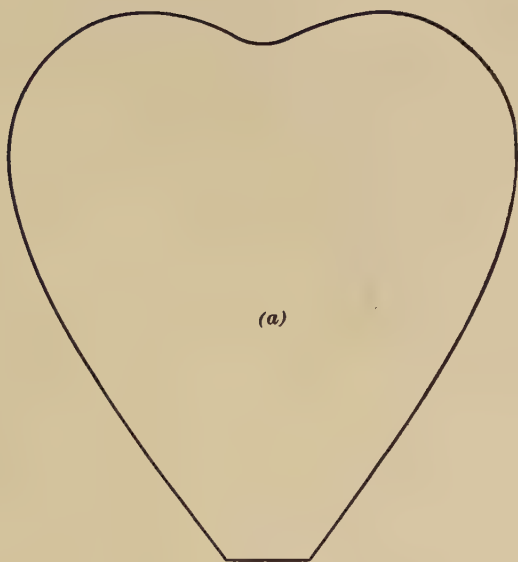


FIG. 34

inwards in the same manner. Curling the petals in this way rounds them and gives a full, rounding shape to the rose. When the petals are prepared in this manner, the rose is ready to be formed. For the rose center, crush three of the petals with the fingers, forming a little hood, and wire them to a stiff stem about 18 inches long. Place the curled petals a little above those used to form the center and wire them on, lapping each petal nearly half way over the one that precedes it. Care should be taken to wrap the petals close to the center, because they have a tendency to spread; also, as many petals as possible should be held on with the fingers before wiring, so as to avoid a bungling effect at the base. When all the petals are securely wired in place, finish by winding the stem with green tissue.

39. For small *crush roses*, cut out twelve pieces of light-pink crêpe paper according to the pattern shown in Fig. 34 (b), and curl the top of each petal in the manner directed for curling the tops of petals for Jacque roses. Crush three petals in the fingers and form a center by attaching these petals to a wire for the stem. Then file on the remaining curled petals and place a calyx below them. Finish by winding the stem with green crêpe paper and opening the curled petals with the fingers. In making roses of this kind, it is advisable to use ready-made rose centers.

40. Large, soft *tissue roses* are made of two strips of tissue paper cut across the fold and according to the pattern shown in Fig. 35. Crush the first four petals for a center, and curl the others over the blade of a pair of scissors, making one side of the petal curl outwards and the other side inwards. Wind the strips thus prepared around a soft wire covered with green tissue, shaping the rose as you proceed, and then attach the finished flower to a stiff stem. Cut the tissue paper for winding the stem wide at the top and into five points for a calyx. Wrap this strip around the base of the flower and wind the narrow part of it down the stem, which should be about 18 inches long. *Tissue buds* are made in the same way, but the paper must be cut smaller than the pattern shown in Fig. 35.

41. *Crêpe roses* are made in practically the same manner as *Jacque roses*. Cut the petals according to the pattern for *Jacque roses*, Fig. 34 (*a*), and curl the top edges over a crochet

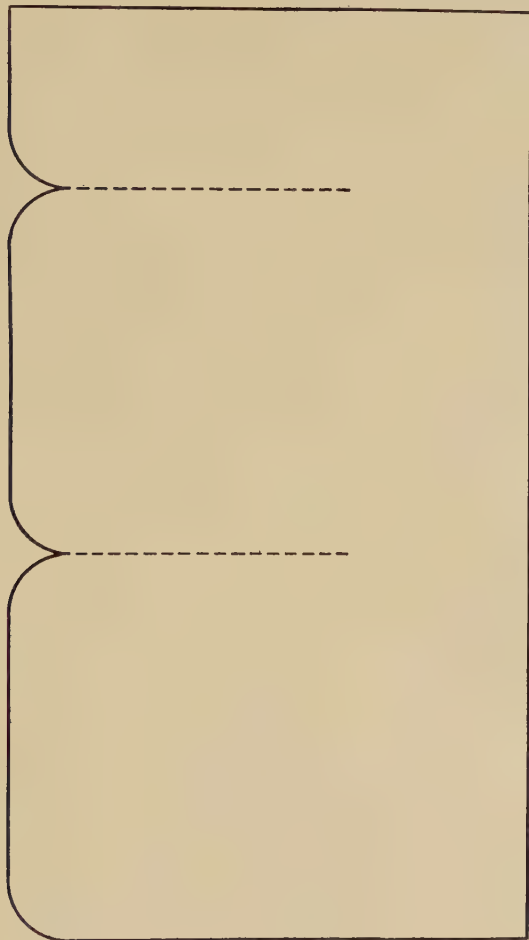


FIG. 35

needle. Pull the petals out gently with the thumbs so as to make them spoon-shaped and to give a rounding shape to the rose. Then proceed in the manner directed for making *Jacque roses*, using about twenty petals for each rose.

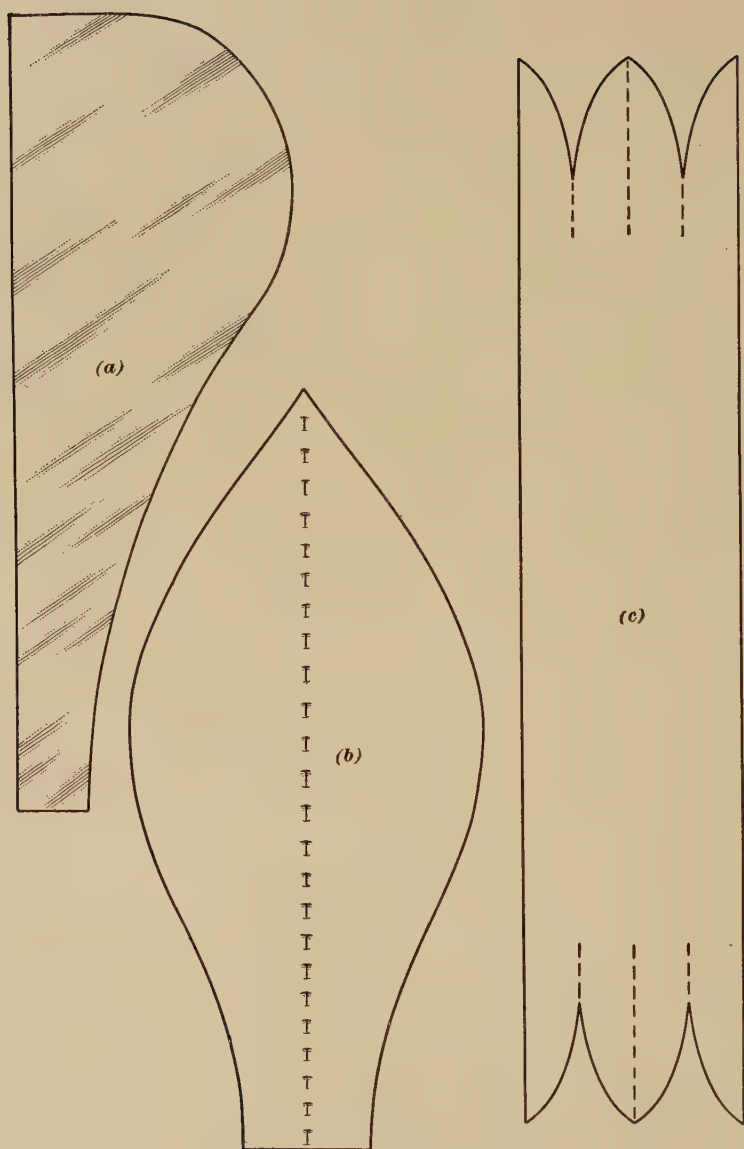


FIG. 36

42. Fleur-de-Lis.—The fleur-de-lis, as shown in Fig. 27 (b), is composed of six petals, and is commonly violet-blue in color. The crêpe paper used to form the petals of these flowers must be cut on the bias. Therefore, to make a fleur-de-lis, cut the petals in half sections, according to the pattern shown in Fig. 36 (a), and paste them together, inserting a wire between the parts that are pasted together so that the leaves may be shaped properly and fastened to the stem. On each of the three petals that are to serve as the lower ones, lay a small, oblong tuft of yellow cotton and glue it along the central wire to about $1\frac{1}{2}$ inches from the base. In forming the flower, first wire together the three lower petals with fine wire, and then place the other three petals between the first three and wire all of them together. Attach the petals thus grouped to a stem padded with green crêpe, and then wind the stem with tissue paper, inserting a long, narrow, pasted tissue leaf of olive green. Finish the flower by shaping the petals. Bend the three inside petals downwards and the three outside petals upwards, so that they will resemble the natural flower as closely as possible.

43. Tulips.—As shown in Fig. 27 (c), a tulip has six petals. To make a flower of this kind, cut the required number of petals from any bright-colored crêpe paper, according to the pattern shown in Fig. 36 (b), and wire them through the center in the manner previously explained. Then cluster the petals around a padded stem about 18 inches long and wire them securely in place. Next, wind the stem with green crêpe paper, inserting a few leaves, which should be long and slender and cut from olive-green tissue paper. Finish the flower by bending the petals into the shape of those of a natural tulip.

44. Forsythia.—To make a forsythia flower, cut a piece of yellow tissue paper according to the pattern shown in Fig. 36 (c), dividing the lobes on the dotted lines. Turn the slashed ends outwards by drawing them over the blade of a pair of scissors, and then form a tubular blossom at each end of the strip by rolling the paper around a small pencil and twisting the tube thus formed so that it will hold its shape. Attach the flowers made in this manner to a branch by the connect-

ing shaft of paper, always twisting in one direction. As a large number of these flowers are required to fill a branch, it is always advisable to cut as many thicknesses of paper as possible at one time. If the flowers are to be used in daylight

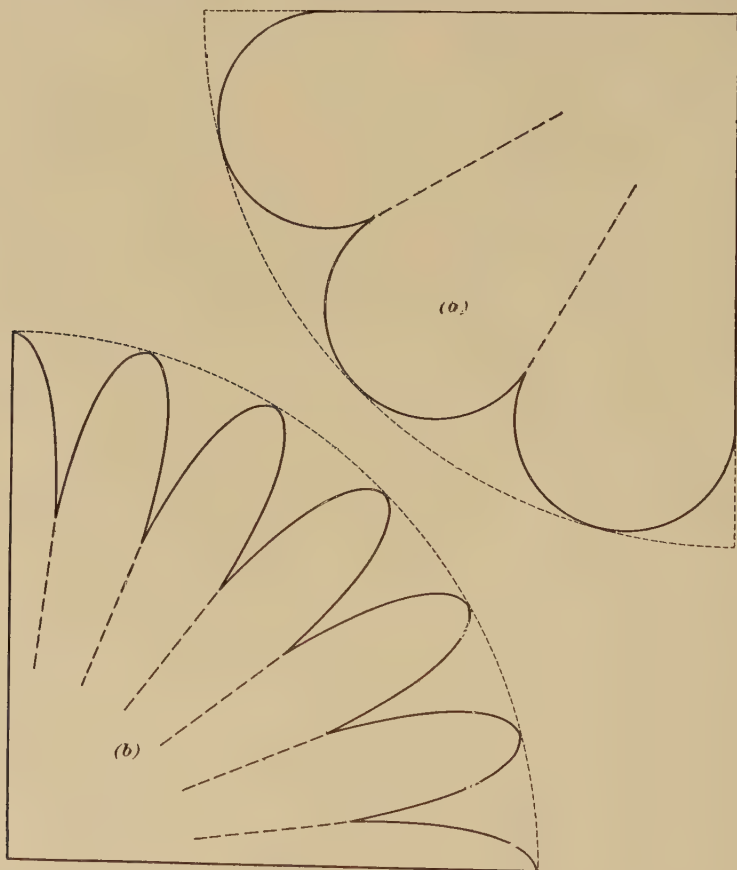


FIG. 37

decorations, light-yellow tissue paper should be used. For evening decorations, a dark shade of yellow paper is required.

45. Wistaria.—A spray of wistaria [see Fig. 27 (a)] requires nine sets of double petals, three each of three different sizes. Lay a sheet of dark-violet tissue paper on one that is

lighter in color. Then cut three 6-inch squares, three $4\frac{1}{2}$ -inch squares, and three $3\frac{1}{2}$ -inch squares. Fold these squares into fourths, and cut them according to the pattern shown in Fig. 37 (a), which is the pattern for a 6-inch square folded into fourths. Open these and cut the paper according to the dotted lines shown on the pattern. Next, twist each one so as to bring the dark part of the petals on the upper side and the light part on the bottom. Care must be taken not to tear the paper in doing this. Hold one set of petals with the thumb and the forefinger of the left hand, and twist from you twice, about half way down, with the thumb and the forefinger of the right hand. The petals are now ready to be put on the stem, which should consist of a piece of wire about 9 inches long wound with green tissue. Slip on the sets of petals, placing the small ones at the top of the stem, the next size in the center, and the large ones at the bottom. Space all the flowers about 1 inch apart, placing one of the small flowers at the extreme end. Glue them in place, pinching the solid center of each flower tightly and close to the stem. Cut five pair of little olive-green leaves from tissue and finish by twisting them on the stem, placing a single leaf at the top and the others along the stem.

46. Chrysanthemums.—To make a *ragged chrysanthemum* (see Fig. 9) six sets of petals cut from four sizes of tissue paper—7, 6, $4\frac{1}{2}$, and 3 inches square—are required. Fold the squares into fourths and cut them according to the pattern shown in Fig. 37 (b), which is the pattern for paper 6 inches square. The six square pieces of each size may be folded and cut at one time. Open the paper cut in this way and wrinkle each petal by pulling it through the fingers. Commence with the smallest size and file the sets of petals—twenty-four in all—on a stiff wire stem, pushing them together as closely as possible. The end of the wire may be twisted around a small piece of paper or bent in such a manner that the sets of petals cannot slip off. Wind a piece of green-covered wire around the stem, and push it up hard against the sets of petals. Finish by placing a calyx $1\frac{1}{2}$ inches in diameter against the flower and then winding the stem.

47. To make a *tiny, button-like chrysanthemum*, cut circles of various sizes, the largest about $1\frac{1}{2}$ inches in diameter, out of tissue paper. Cut these pieces into rather fine fringe, a number at one time, and pull them apart. Then file them on a stem and finish the flower in the manner just explained for ragged chrysanthemums.

48. To make a *large curled chrysanthemum* [see Fig. 28 (b)], prepare eight sets of petals out of eight pieces of tissue paper each $7\frac{1}{2}$ inches square by folding them into fourths and cutting them according to the pattern shown in Fig. 37 (b). Curl each petal by placing the sets, one at a time, on a cushion and rolling the petal from its end to its center on the head of a common hat pin. Fasten a piece of fringed crêpe of the same color as the petals to the end of a stiff stem wire, and then file on the sets of petals and pinch them up around the center. Cut a green tissue circle $2\frac{1}{2}$ inches in diameter, notch it, and file it on for a calyx. Finish the flower by winding the stem and inserting leaves.

MISCELLANEOUS INFORMATION

49. **Crêpe-Paper Shade.**—Fig. 38 shows a pretty decoration in the form of a crêpe-paper shade suitable for an electric-light bulb. Such shades can be purchased ready made, or they can be made by the trimmer. They are made in much the same manner as a paper tulip, except that the petals are cut larger. Many other styles of shades can be made from either crêpe or tissue paper.



FIG. 38

50. **Use of Artificial Vines and Flowers.**—Vines to which flowers are attached are used to a great extent on lattices, covered framework, and similar display devices. Flowers are secured to vines in the manner shown in Fig. 39; that is, the flower is held in the left hand so that the stem comes behind the vine and the stem is then twisted around the vine several times with the right hand. In some cases the vines and flowers are scattered about promiscuously, as they might

appear in nature, and, again, they are placed with more regularity for the sake of uniformity in the final effect.

Fig. 40 shows an effective background in which use is made of vines and flowers. This background, which stands behind a puffed floor covering, consists of a frame covered with tartan on which is placed a neat design worked out of puffed silkoline or some similar material. The vines and flowers are gracefully arranged and add considerably to the design. This



FIG. 39

style of decoration may be used in connection with any design of framework, and on the back as well as the front of the frame, in which case the framework must be wrap-covered with material of the same color as that used for the puffing. When there is a sunburst or plaited decoration a short distance back of the frame, elegant effects can be obtained by leaving some of the spaces open. Thus, in Fig. 40, a good effect would result if the large central space were left undecorated.

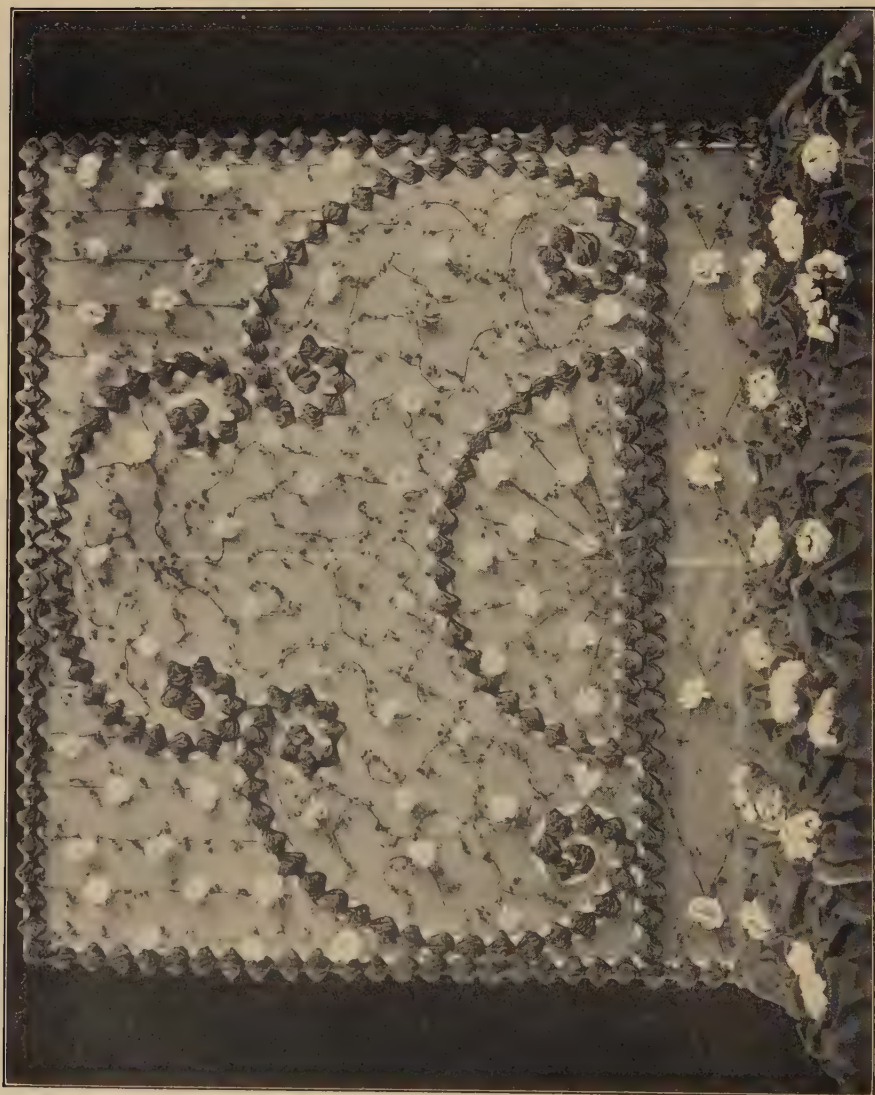


FIG. 40

51. Preservation of Plant Colors.—In some instances it is desirable to preserve the natural green color of plants, especially those which are to be used indefinitely for exhibition purposes. They may be prepared in the following manner: Air is removed as completely as possible from the surface and intercellular spaces of the plants by immersing them in alcohol that is from 90 to 95 per cent. pure. In this condition, the plants are immersed in dilute glycerine—5 per cent.—to which a bluish tint has been imparted by means of copper sulphate or acetate. The copper combines with the chlorophyl, or the green coloring matter of the plants, forming copper phyllocyanate, a compound that is practically insoluble in any ordinary preservative medium, except strong alcohol, and is not affected by light. Any excess of copper salt in the compound may be dissolved out by a mixture of dilute glycerine and formaline, which may also be employed with advantage as the preservative medium.

CRÊPE-PAPER DECORATIONS

REMARKS

52. Crêpe paper, on account of its low cost and the ease with which it can be made into neat designs, has become an extensively used decorative material. This paper is about 20 inches wide, and is made into rolls that contain about 10 feet, the right side of the material being folded in. It comes in a large variety of colors, both plain and figured, and many designs suitable for special holiday and patriotic decorations can be obtained. Of course, crêpe paper can in no way equal the more expensive decorative materials, such as artificial flowers made of muslin or silk, or the draping materials plush, silkoline, or even cheesecloth; nevertheless, it can be employed to advantage in interior decorations, as well as in window displays of such merchandise as stationery, drugs, hardware, groceries, etc.

53. Methods of Cutting Crêpe Paper.—Although crêpe paper is about 20 inches wide, this width is seldom used in making decorations. In order to form edging borders, ruffles, etc., the paper must be cut into strips. Cutting is best done by rolling the paper as tight as possible and then sawing it

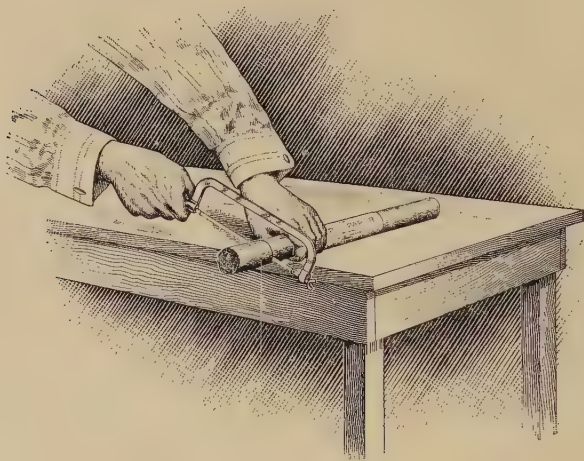


FIG. 41

with a fine-toothed saw, as illustrated in Fig. 41. By following this method, strips can be cut straight and even as narrow as 1 inch. Sawing leaves a rough edge, but this is desirable in crêpe-paper decorations. Another method consists in folding the crêpe paper evenly several times and then cutting it with a sharp knife or a pair of sharp shears.

MAKING OF CRÊPE-PAPER ORNAMENTS

54. Crêpe-Paper Ruffles.—Fig. 42 shows a ruffle made of both green and white crêpe paper. Ruffles of this kind, whether made up of a single color or of several colors, are commonly used in forming edgings, panels, and scrolls, as well as for covering strips of wood. They are also employed in making backgrounds, in which case they are allowed to hang down straight.

A ruffle like that shown in Fig. 42 is made in the following manner: Three strips of paper of the desired length are laid together as shown in Fig. 43, the bottom strip *a*, which is white, being 6 inches wide; the next strip *b*, which is green, 4 inches;



FIG. 42



FIG. 43

and the top strip *c*, which is white, 2 inches. As will be observed, these strips are placed so that all the edges are parallel and that each shows the same width of color. The strips are then securely fastened in place by tacking a piece of cotton

tape down the center, as shown in Fig. 43 and at *a*, Fig. 44. Next, as illustrated in Fig. 44, the sides of the strips are pressed together throughout the entire length, so as to give them the necessary spring from the flat surface on which they are used.



FIG. 44

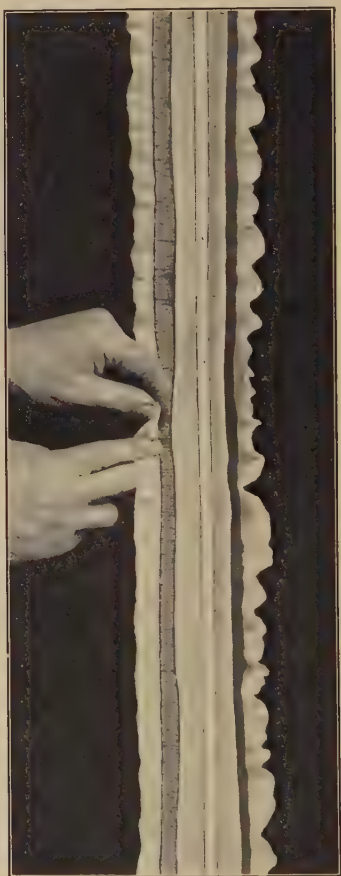


FIG. 45

The edges of all the strips are next ruffled by stretching the paper with the thumb and the forefinger, as indicated in Fig. 45. Care, however, should always be taken not to stretch the paper so much as to tear it, because in such an event the torn strip

would have to be replaced and part of the work done over. The crêpe-paper ruffle is then finished by fastening a narrow strip of the proper shade of green crêpe paper over the tape, as shown in the finished ruffle, illustrated in Fig. 42.



FIG. 46



FIG. 47

55. Another method of forming a ruffle consists in folding strips of crêpe paper lengthwise through the center, tacking tape along the creased edge, as shown at *a*, Fig. 46, and then turning the top edges of the paper back, as shown in

Fig. 47. In this way, the fastenings are brought behind the ruffle, and the extra strip of crêpe paper used in the preceding method to cover the tape is not required.

56. Hanging Ruffle.—Fig. 48 illustrates a wide hanging ruffle or flounce, such as is used when a valence or a frieze effect is desired. Three crêpe-paper strips of different widths are used to make a hanging ruffle of this style, although more strips can be used if it is deemed advisable. The strips are brought together evenly on one side and tacked in place, and

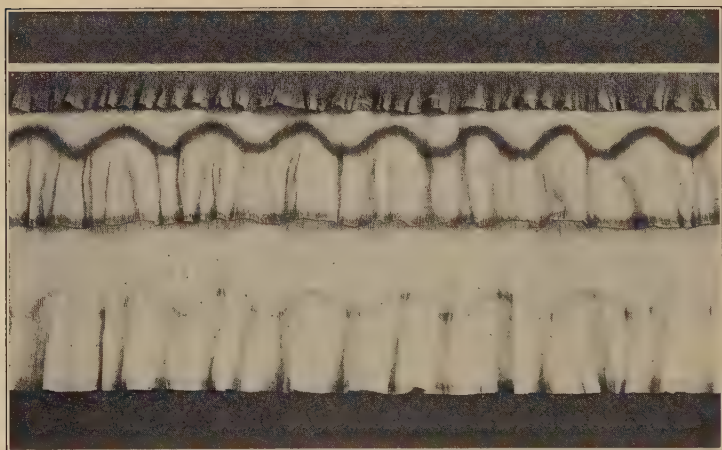


FIG. 48

the edges that hang down are then ruffled by stretching the paper, as already explained. The edge that is tacked may be finished with tape, as shown in the illustration, but usually a strip of gilt molding or some other fancy molding is used.

57. Crêpe-Paper Roping.—Roping made out of crêpe paper is used considerably as edging for frames or panels and for draping purposes. It is also used in forming lattices and as cord for tassels. Crêpe-paper roping is made by forming strands out of strips that are about 6 inches wide and of the desired length and then twisting three of these strands together. The best effect is secured by using contrasting colors—say

two strands of one color and one strand of another, or one strand of white and two strands of a light or a dark shade of some other color.



FIG. 49

Two persons are required to make crêpe-paper roping. Figs. 49 and 50 illustrate the manner in which single strands

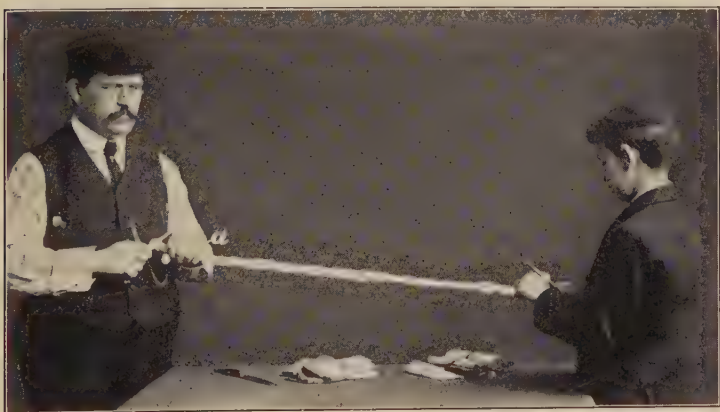


FIG. 50

are formed. The ends of a crêpe-paper strip are turned over a lead pencil held in the right hand of each person, as shown in Fig. 49, forming a loop, which is grasped with the left hand.

With both ends secured in this manner, the paper is stretched well out to the limit and the pencils are turned in opposite

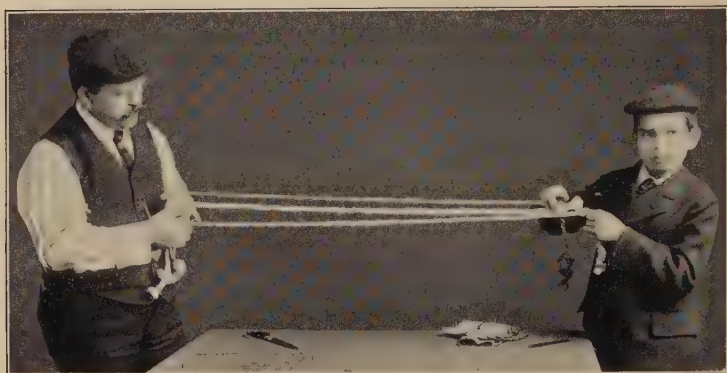


FIG. 51

directions by carrying their top ends around the hands *a*, Fig. 50, in which the paper is allowed to turn. This operation twists the paper throughout its entire length, gradually reducing it to the proper thickness. After the required number of strips have been twisted until they form small, tight strands, three



FIG. 52

of them are brought together in the manner shown in Fig. 51 and their ends turned over the pencils in the same way as the

strips used to form the strands. These strands are then twisted in the same manner as the strips of crêpe paper, except in the opposite direction. This reversal of twisting operates against the natural tendency of the strands to untwist. When the roping is twisted to about the proper thickness the hand is run along the strands, as shown at *a*, Fig. 52, to smooth down any irregularities and thus give a uniform thickness throughout. The pencils are then removed and the ends securely fastened by tying them with thread, when the roping is ready for use.

58. Crêpe-Paper Tassels.—The usefulness and effectiveness of the tassel as a means of ornamentation is well



FIG. 53

known from its use as an upholstery accessory in various kinds of artistic draperies. Tassels for the trade are made of various materials and in many styles, but frequently an inexpensive substitute is desired, and in such cases tassels made of crêpe paper can be used with good taste in connection with paper roping.

In order to make a crêpe-paper tassel, three pieces of full-width crêpe paper of about the same length as the width—that

is, about 20 in. $\times$ 20 in.—are required, as illustrated in Fig. 53. These pieces are laid together evenly and folded in half, across



FIG. 54

the width, as shown in Fig. 54, after which the edges are trimmed even with a pair of shears or a sharp knife. A strong cord is placed between the folds, as shown at *a*, Fig. 55, and the paper is stitched together with strong thread, as shown by the dotted line. The paper below the stitching is then slashed

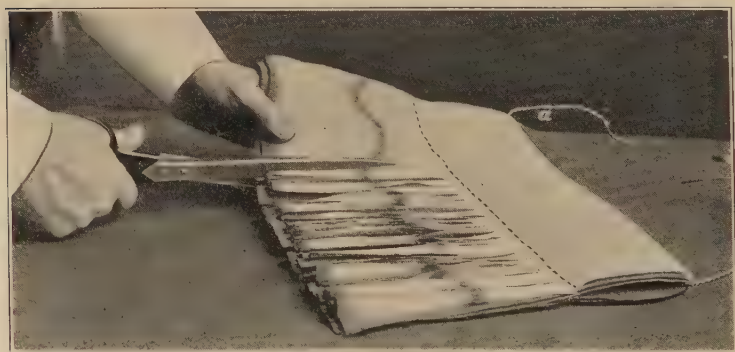


FIG. 55

in the manner indicated. These slashes are usually made about $\frac{1}{2}$ inch apart, but they may be varied to suit the taste of the

trimmer. The ends of the cord are then grasped by the hands and gently drawn together, but care is taken to keep the paper

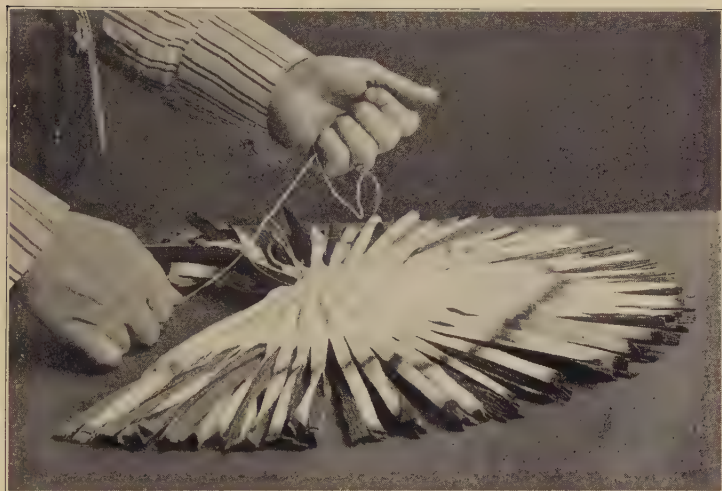


FIG. 56

flat. This operation causes the paper to gather along the cord and at the same time work around into a circular form,



FIG. 57

as shown in Fig. 56. The string is next formed into a simple knot and drawn together until the folded edge of the paper

forms about a $\frac{1}{2}$ -inch circle. The knot is then securely tied and the surplus cord cut away. A ball about the size of a base



FIG. 58

ball is next formed out of crêpe-paper scraps and trimmings and placed in the center of the paper, immediately on the circle formed by tying, as illustrated in Fig. 57. The slashed fringe is then brought together and the unslashed portion of the

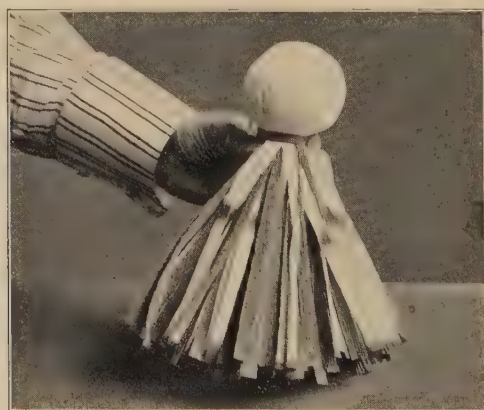


FIG. 59

paper is brought around so as to cover the crushed ball, as shown in Fig. 58. While holding the tassel in this position,

twine is twisted twice around the neck between the ball and the fringe, as indicated, and tied tightly. The twine and the knot are concealed by winding a couple of strands of the fringe around them, and the ends of these strands are slipped under the loop thus made and drawn up close, forming a neat band, as indicated in Fig. 59, which also shows the finished tassel.



FIG. 60

By introducing a piece of paper cord or roping into the hole at the top of the tassel and securing it with pins or with glue, the result will appear as illustrated in Fig. 60. An ornament of this kind is both useful and attractive. If made of one color and shaded with air brush, the effect will be very pleasing.

LATTICEWORK

REMARKS

59. Latticework is commonly used for filling in open arches and spaces in set pieces and other display devices. Lattices form an excellent foundation for floral decorations, and it is not uncommon to find backgrounds entirely covered with them. Latticework is usually made up in two general styles; namely, square and diamond shape. The construction of lattices is simple. Narrow strips of wood are commonly employed for this purpose, although ribbon, tape, crêpe paper, and cloth can be used to advantage. Following are shown several examples of lattices, as well as the methods of forming them out of the materials just mentioned.

EXAMPLES OF LATTICEWORK

60. Crêpe-Paper Latticework.—In Fig. 61 is shown part of a frame and scroll covered with a neat crêpe-paper ruffle and ornamented with a crêpe-paper rope and tassel and latticework formed out of crêpe paper. The paper used for making latticework is cut into strips from 1 to 3 inches wide and is spaced from 2 to 4 inches, depending on the size of the space to be filled. The strips are always fastened, either by means of tacks or paste, to the back of the frame. To form the latticework shown in Fig. 61, the first strip is fastened at the upper right-hand corner and brought down at an angle of 45 degrees; but just before fastening the opposite end of the strip it is turned a few times to give it a twisted effect. Strips equally spaced and twisted in the same manner as the first strip are then put up until the entire space is filled. Cross-strips twisted in the same way and placed at right angles to



FIG. 61



FIG. 62

the first layer of strips are next put up, producing the effect illustrated.

Single strips of paper of one color are generally used in forming lattices of this style. However, if a more attractive design is required, two strips of different colors placed back to back may be employed. When strips of this kind are twisted in the manner just explained, the colors will alternate at each turn of the paper. Twisted strips of crêpe paper, either single or double, can be used to advantage for forming festoons in



FIG. 63

either long or short sweeps; also, when fastened straight up and down, they make good backgrounds for window displays.

61. Fig. 62 shows the open space of the framework and scroll illustrated in Fig. 61 filled in with latticework consisting of horizontal and perpendicular strips of crêpe paper. The perpendicular strips are fastened in place first and the horizontal strips are woven in and out in basket fashion, forming latticework having a square mesh. Ribbon, tape, window-

shade material, strips of heavy gloss paper, and painted wooden slats also produce good results when arranged in this manner.

62. Tape Latticework.—In Fig. 63 is shown latticework formed out of common cotton tape. The pieces of tape are put up in the same manner as the crêpe-paper strips used to form the latticework shown in Fig. 61, except that they are not twisted. Care should always be taken to see that the tapes are spread equally, the distance in all cases being



FIG. 64

regulated by the size of the space in which the lattice is to be formed. A small space requires latticework in which the tapes are placed close together, and a large space, latticework formed by tapes spaced far apart. Tape lattices may be made very effective by shading the strands at their crossing points with an air brush or with aniline dye. If dye is to be used for this purpose, the tapes at the points where they cross should simply be touched with a swab that has been dipped in the dye. A swab can be made simply by winding a piece



FIG. 65



FIG. 66

of cheesecloth around one end of a small stick. The tapes will absorb the dye thus applied, and the color will spread out in shades in the strands, causing a pretty effect.

63. Miscellaneous Lattices.—In Fig. 64 is shown latticework that may be formed out of strips of wood or pieces of tape covered with tubular puffing. The material is shirred on the strips of wood or pieces of tape before they are fastened in place and serve to make the latticework attractive.

Fig. 65 shows latticework made of artificial smilax, and Fig. 66, latticework formed out of painted slats and filled in with artificial wistaria blossoms and foliage. Artificial flowers and vines used in the manner shown in these illustrations never fail to attract attention, and, what is more, they can be used for almost any occasion or for any kind of display.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 4)

DECORATED SURFACE

REMARKS

1. Decorated surface, by which is meant a surface, such as a wall or a covered framework, rendered artistic by means of stencil designs, fresco ornaments, paints, wallpaper, etc., finds its greatest use in the construction of booths for fairs, exhibitions, and pure-food exhibits. In many instances, backgrounds for the show windows of small stores that are not equipped with permanent backgrounds are made by decorating surfaces; but in modern business houses the only time that a decorated surface might be utilized is when a temporary background is required in front of a permanent one on account of some special display of merchandise.

2. As a general rule, surfaces that are to be decorated are first divided into panels, which may be laid out in various shapes, such as ovals, diamonds, quadrilaterals, etc. The number of designs that can be formed by paneling are many, but owing to the limited time in which the average display must be made, the simpler the design the more satisfactory will be the work. Panels laid out in this way can be ornamented by means of stencils, fresco decorations, wallpaper, paints, and moldings, as will be learned. To produce good results, however, it is necessary in all cases that the surfaces to be

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decorated be smooth and free from irregularities. Surfaces for window backgrounds, as well as for booths, generally consist of framework covered smoothly with unbleached sheeting, but, as will be seen, other materials can be used.

3. In this Section are illustrated and described the methods of forming the various shapes of panels commonly used in the decoration of surfaces, as well as many of the methods of ornamenting them; and while such processes as stenciling, frescoing, stippling, etc. are described in connection with paneling, it must not be inferred that these processes cannot be employed for ornamenting other kinds of work. The suggestions in regard to the decoration of panels should be sufficient to enable the beginner to work out many ideas of his own and thus show his individuality. By combining some of the decorations that are illustrated and introducing original ideas, the number of panel designs and surface decorations that can be developed is practically unlimited. It is not necessary to cling to one particular method of decoration; indeed, to get the best results, several methods should be used in combination.

LAYING OUT PANELS

4. **Oblong Panels.**—The most common style of panel used in the decoration of surfaces is the one that is oblong in shape. Usually, several panels of this kind are required in making temporary backgrounds. The method of laying out several oblong panels on a wall surface is illustrated in Fig. 1. First, two horizontal lines, as *a b*, are drawn by means of a straightedge and a pencil at equal distances from the top and the bottom of the space that is to be decorated. The exact center of these lines is then determined by measurement and marked, as shown at *c*. Next, the upper line, at each side of the center, is divided into spaces to represent the width of the panels as well as the width of the spaces between the panels, and at each of the points thus determined is driven a tack or a small brad. From the first tack *d* at the right of the center *c* is suspended a plumb-line to the end of which is fastened a

plumb-bob, as shown. When the plumb-line is exactly vertical, a point is marked on the lower line ab where the plumb-line crosses it, and by means of a straightedge, which is placed on the upper point d and the one just marked on the lower line, the vertical outline for one side of a panel is drawn. The plumb-line is placed on the next tack, and the other vertical line of the panel is drawn in the same way. This process is repeated until vertical lines for all the panels are drawn, when the desired surface decorations may be applied.

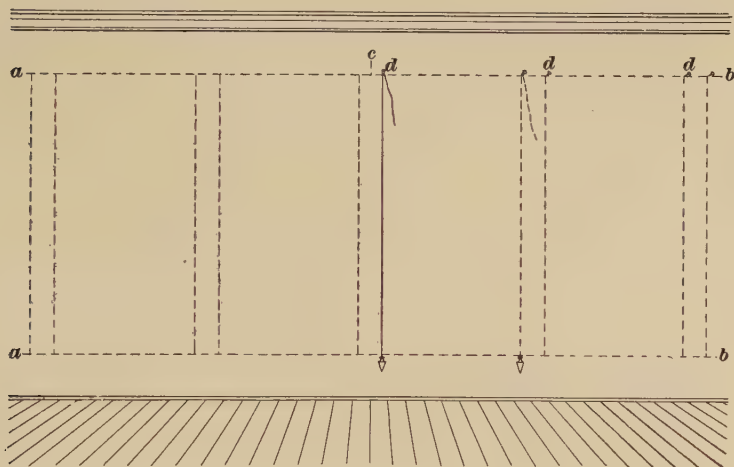


FIG. 1

5. Oval Panels.—Many neat designs can be formed by using oval-shaped panels on a surface that is to be decorated. In some cases, only one oval may be required, and in other cases two or more may be used, depending on the size of the surface. There are several ways of obtaining oval, or, correctly speaking, elliptical, outlines by means of drawing instruments and calculations; but as the trimmer is usually too busy to be bothered in this way, a simple method of drawing an ellipse will be explained here. This method requires only a piece of string, a pencil, and a few pins or brads.

6. Assume that it is desired to draw an oval, or an ellipse, in a rectangular space, as shown in Fig. 2. First, locate four

points, as *a*, *b*, *c*, and *d*, an equal distance from the exact center of each of the four sides of the space. Draw lightly with a pencil a vertical line connecting the points *a* and *b* and a horizontal line connecting the points *c* and *d*, and thus locate the point *e*, which is the exact center of the space. Measure the length of the line *ae*, and from *d* measure the same distance to the vertical line *ab*, both above and below the point *e*, so as to locate the points *f* and *g*, as shown by the dotted lines in the illustration. Drive brads at these points. Make a loop out of string to reach from *f* to *b*, and place this loop around the brads located at *f* and *g*. Insert the point of a pencil within the loop and draw the ellipse by following the limits of the loop, as illustrated in Fig. 3.

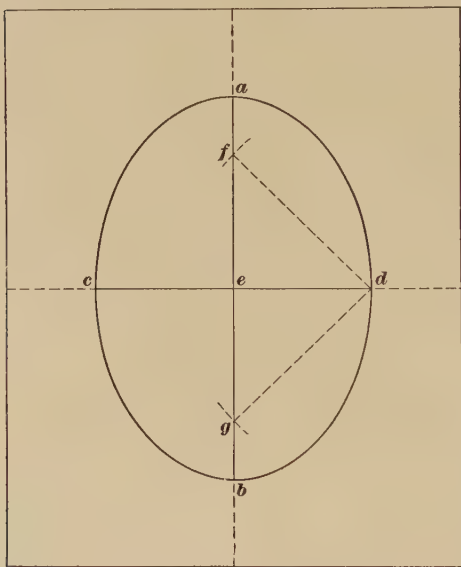


FIG. 2

the loop. For example, to make a $12'' \times 19\frac{1}{2}''$ oval, the points *f* and *g* should be spaced 15 inches apart and the string should be 35 inches long; that is, one that will form a $17\frac{1}{2}$ -inch loop when doubled. To make a $30'' \times 42''$ oval, the usual size for show-window panels, the tacks should be placed 30 inches apart and the string, before the ends are tied together, should be 71 inches long.

If more than one oval is to be drawn on a surface, it will be found expedient to divide the surface into oblong panels in the manner already described so that the ovals can be correctly

7. Ovals of any size can be drawn in the manner just described, but the size will always depend on the distance between the points *f* and *g*, Fig. 2, and the length of

spaced. In such cases, a good plan is to draw an oval of the proper size on a sheet of heavy paper, cut it out with a pair of shears, and then use the pattern thus made for drawing the ovals in the spaces.

8. Diamond-Shaped Panels.—Another style of panel that can be used to advantage in the decoration of surfaces is the diamond-shaped panel. The two methods that follow may be employed in laying out panels of this style.



FIG. 3

9. In the first method, the surface to be decorated is marked off by three horizontal lines *a b*, as shown in Fig. 4. The top line and the bottom line are drawn equal distances from the top and the bottom, respectively, of the space, and the other line is drawn exactly midway between these two. The exact center of the top line is then found by measurement, and a vertical line, as shown at *c*, is drawn after having located the points through which it should pass on the lower lines *a b* by

means of a plumb-line. In this condition, the space is ready to be marked off into diamond-shaped panels. In order to draw the design as rapidly as possible, use is made of two thin boards fastened together at the center with a screw, as shown at *d*, so as to form an **X**-shaped device. The boards used for this purpose should be of the proper length and from 3 to 6 inches wide, depending on the size of the diamonds that are to be outlined. These boards are placed against the surface so that the points formed where the boards cross each other

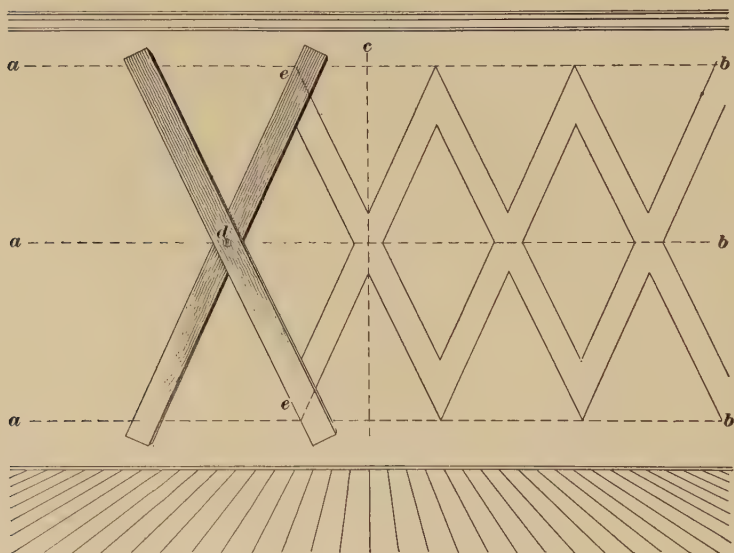


FIG. 4

come exactly on the vertical line *c*. Then, with a lead pencil, lines are drawn around the edges of these strips. After the first **X** shape is drawn, the boards are moved so that the inside edges of the crossed strips come to a point with the drawn lines, as illustrated at *e*, and another set of lines is drawn. This process is continued until the required number of panels on each side of the center are formed. By executing the work carefully, all the panels will be uniform in size, and when properly decorated they should present an attractive appearance.

10. In the second method, the surface to be decorated is lined off in the manner just explained, but instead of the **X**-shaped device a stiff-paper pattern is used to form the shape of the panels. A pattern suitable for this purpose is made by folding an oblong sheet of paper into fourths, cutting this folded paper from one corner to the corner diagonally opposite, being careful not to cut from the corner that represents the center of the sheet, and finally making another cut parallel to the first one. In making a pattern of this kind, it will be well to remember that the size of the diamond pattern will always depend on the size of the oblong paper. For example, a sheet



FIG. 5

of paper 3 feet long and 2 feet wide, if folded and cut in the manner just explained, will make a diamond the outside dimensions of which are 3 ft. $\times$ 2 ft. The pattern cut out in this manner is placed on the surface so that two of the creases formed in folding the paper will come on the central horizontal line *a b*, Fig. 4, and the other two will run parallel with the vertical line *c*, and the outline of the diamond is then drawn with a pencil. The next panel is drawn by placing the pattern so that its outside point touches the inside point of the panel drawn first and tracing with a lead pencil. This method of drawing the panels is kept up until the required number of

diamonds are drawn, but care is necessary at all times to place the pattern so that the finished design will be uniform. In order to hold the pattern in place each time it is to be traced, it should be fastened by means of tacks.

11. In using either of the preceding methods, it is of course necessary to use judgment in regard to the number of diamonds to draw as well as the shape of the diamond. A little experimenting on the part of the trimmer before drawing the design will always avoid any serious blunder.

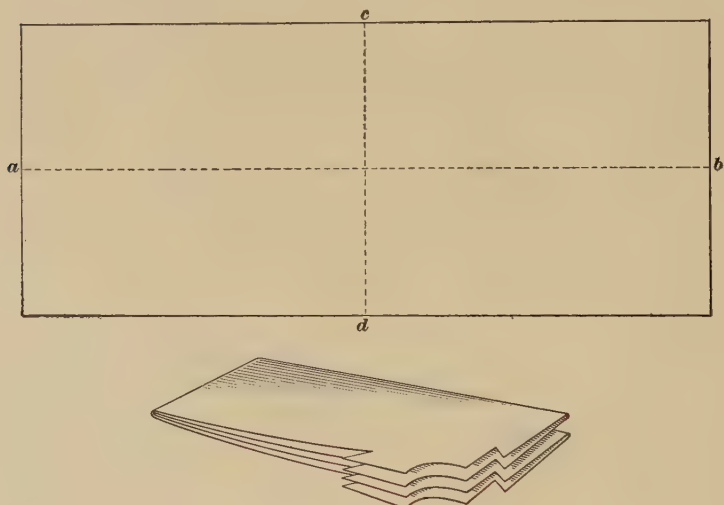


FIG. 6

12. Odd-Shaped Panels.—Besides the panel designs already described, panels of odd shape can often be used with good effect. In order to lay out such panels on surfaces to be decorated, patterns cut out of stiff paper are usually required. These patterns are spaced and traced in much the same manner as the patterns described in the second method of forming diamond-shaped panels. Fig. 5 shows a wall space laid out into panels of odd shape by means of a pattern. A pattern for panels of this design is made as shown in Fig. 6. A sheet of heavy paper of the proper size is folded into fourths, the first fold being made on the line *a b* and the second on the line *c d*.

All the edges of the paper are then cut at one time, as shown at the bottom of the illustration, so as to form the correct design for the panel. Of course, any number of panel designs can be formed by means of patterns cut out in this way. This example, however, should be sufficient to give the beginner a good idea of what can be done in this direction.

DECORATION OF PANELED SURFACES

13. The manner in which surfaces should be decorated depends considerably on the style of panel that is to be used. Oblong and diamond-shaped panels are usually set off by



FIG. 7

means of a neat molding, but panels that are oval or of some odd shape are usually made attractive by means of fresco relief ornaments, stencil work, or air-brush work, because it is almost impossible to fit their edges with molding. In many cases, the space between panels, as well as that inside of the panel outlines, is filled in with muslin, denim, burlap, plush, tapestry, wallpaper, or some similar material, and, besides molding and the other styles of decoration just mentioned, outlines are formed out of beading, tape, ribbon, lace, or puffing, depending on the effect that is to be created.

Following are shown many examples of surfaces marked off into panels and decorated in different ways, and at the same time the methods employed in their decoration are described. As has already been stated, some of the methods described in connection with the decoration of paneled surfaces can be used equally as well in the decoration of other surfaces.

14. Panels Ornamented With Molding.—In Fig. 7 is shown part of a background consisting of a framework covered with sheeting and ornamented by means of oblong panels.

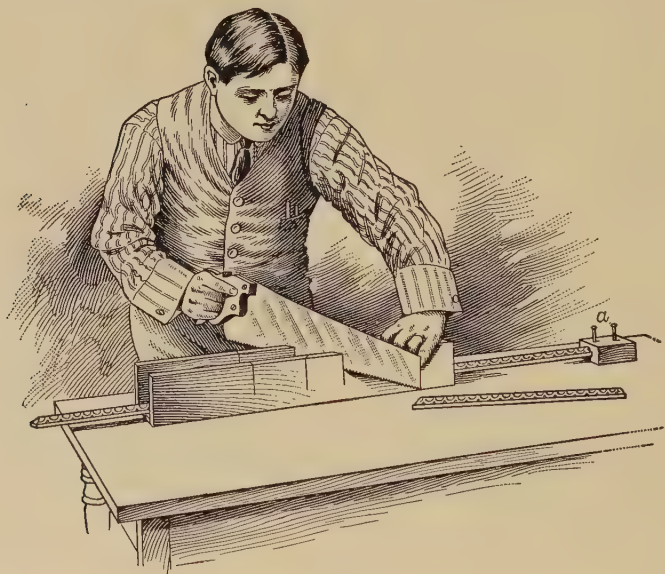


FIG. 8

These panels are outlined with molding, which is secured in place by means of brads driven into the covered framework. The space inside of the frames of molding is left plain, but the space between the panels is colored by means of cold-water paint. To give an appearance of solidity to this background, a molding is run across the top and a baseboard is placed at the bottom, as shown.

The molding used to outline panels of this style must be cut at an angle of 45 degrees in a miter-box, as illustrated in

Fig. 8. The molding will thus be cut on the bias, which is necessary in order to make it fit properly at the square corners. Each piece of molding should be cut to exact measurement; otherwise, the panels will be out of shape and will show clearly the lack of good workmanship. The longest pieces of molding, that is, those required for the sides of the panels, should always be cut first. In this way, the short pieces for the top and the bottom of the panels can be cut from the pieces that are left over and the wasting of material avoided. A good way to avoid mistakes in cutting molding in a miter-



FIG. 9

box is to fasten the box to a bench or a table with screws and then cut each piece of molding according to a gauge consisting of a small block nailed temporarily to the bench the proper distance from the saw cut in the miter-box, as shown at *a*.

15. In Fig. 9 are shown diamond-shaped panels, the outlines of which are finished with molding. The method of cutting moldings for panels of this shape differs considerably from the one just explained. In this case, there are no 45-degree angles, and for this reason it is necessary to deter-

mine the proper angles before cutting the molding. Fig. 10 illustrates a simple and satisfactory method of determining the angles at which to cut the molding. The molding with the ends overlapping each other is tacked in place temporarily, and then, with a fine saw, both thicknesses are cut through as indicated by the lines *a b* and *c d*. When cut in this manner the strips of molding should fit together tightly, but should there be any irregularities on account of untrue sawing, they can be overcome by pressing the pieces together tightly and then sawing between the ends with a fine-toothed saw.

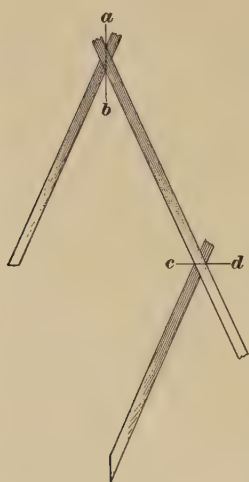


FIG. 10

Of course, the proper angles could be worked out and the required slots for cutting the molding made in a miter-box, but the plan just mentioned will be found satisfactory in most cases.

16. Panels Ornamented With Stencilwork.—As already mentioned, many neat decorations can be made with stencils. Usually, stencils are made in sections, the designs being cut in oiled cardboard by means of dies. A large assortment of designs suitable for various kinds of decorations are generally kept on sale in paint stores and decorative supply houses, and when the results obtained by their use are taken

into consideration, they cannot be said to be expensive.

17. To give an idea of the decorations that can be made with stencils, reference is made to Fig. 11. This illustration shows a framework background covered with sheeting and divided into three oblong panels and a frieze, which are decorated with fine gilt molding and stencilwork. In the original of this background, three shades of green were used—light green for the space between the panels and the frieze, a darker shade for the inside of the panels and the frieze, and a still darker shade for the stencilwork—making an attractive color scheme.

In decorating a background of this style, the surface is first laid out into panels in the manner previously explained and then painted the desired shades with cold-water paint. When the paint is dry, the molding is nailed in place, and after this the stencilwork is done. The operation of stenciling is simple. For a panel design like that shown in Fig. 11, or any similar design for that matter, the corner stencil is first placed in position and fastened temporarily with tacks, as shown in Fig. 12. Then, by means of a brush made especially for stenciling—



FIG. 11

one that is rather thick and has a blunt end—the color is applied and the design formed on the surface. In order to apply the color properly, the brush must be tapped over the pattern cut in the stencil with an up-and-down motion, as shown in Fig. 13. The brush should by no means be rubbed over the stencil as in ordinary painting, because the stencil will scrape paint from the brush and this paint will run under the stencil and blur the design. It is also advisable not to have too much paint on the brush, and care should be taken to have the color even and uniform. Paint especially prepared for stenciling is usually the most satisfactory. Each corner design is made



FIG. 12

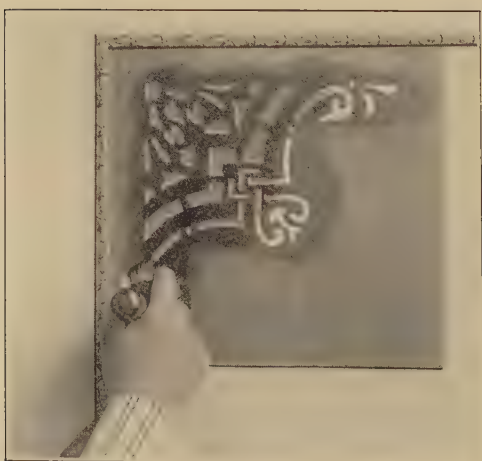


FIG. 13

in this manner with the same stencil, after which the pattern for the connecting border, as shown in Fig. 14, is stenciled. The fleur-de-lis ornament in the center of each panel is then made by means of a stencil, as is also the frieze design, as shown in Fig. 15, completing the ornamentation.

18. The method of stenciling outlined here can be applied equally as well to other surfaces that are to be decorated, the



FIG. 14

principal thing in any case being to select stencil designs that are appropriate for the purpose for which they are to be used.

If a background like that shown in Fig. 11 is to be used in a window having side walls, the designs should be carried out on these walls, as a continuation of the background; also, if there is a ceiling space, it may be treated with suitable panel and stencil decorations, so as to harmonize with the background.

19. Fresco Decorations.—As understood by window trimmers, **frescoing** includes both *relief decorations* and the art or process known as *stippling*. The decoration of surfaces by means of frescoing requires considerable skill on the part of the trimmer. However, as many attractive panels and designs can be made in this way, it may be of advantage to know how to do this kind of decorating when necessary.

20. To give a general idea of the possibilities of frescoing, a section of a background having three oval panels and a



FIG. 15

frieze ornamented with **relief**, or **raised**, **decorations** is shown in Fig. 16; and in order to make clear the method of making relief ornaments, the formation of a background of this design is here described.

In producing decorations of the style shown, it is necessary to go about the work in a systematic manner, and, above all, to observe great care and cleanliness in its performance. The first step consists in preparing the surface; the second, in laying out the panels and designs; the third, in tinting the surface; and the final step, in applying the relief decorations.

Preparing the Surface.—As is true of all surfaces that are to be decorated, a surface that is to be decorated with relief ornaments must be smooth and even, like the plastered walls of a room. If an old surface, such as a background of wood that contains grooves and irregularities, is to be decorated in this manner, it must be covered first with cheap unbleached sheeting. Before covering the surface, however, all such obstructions as moldings, pins, tacks, nails, screw eyes, hooks, fixture sockets, etc. must be removed. The sheeting when in place should be free from wrinkles, perfectly smooth, and



FIG. 16

as tight as possible. As sheeting is made in widths that range, by quarters of a yard, from 1 to 3 yards, it is generally possible to secure the goods in pieces large enough to cover average-sized background spaces by simply tacking around the edges. However, in cases where the space is wider each way than the widest sheeting, widths should be chosen that will cause the unavoidable seams to come along lines that are to be finished with the relief work. In this way, the appearance of seams in the finished work will be avoided. After the surface has been properly and successfully covered, the cloth should be



FIG. 17



FIG 13

dampened all over with a thin solution of size, consisting of glue and water. Gilders' whiting, though not absolutely necessary, will improve the painting surface if added to the solution. This solution will thoroughly shrink and set the goods, so that it will afford a surface for painting equal to the best grade of plastering.

Laying Out the Panels and Designs.—After the surface that is to be ornamented is properly prepared, the panels, which in this case are oval-shaped, are outlined, as are also the ornaments that are to appear in relief.



FIG. 19

Tinting the Surface.—The next operation, which consists in tinting the surface, must be performed skilfully, because it has much to do with the appearance of the finished background. Cold-water paint is used for tinting the surface. It is applied with a flat brush, as shown in Figs. 17 and 18, which, respectively, illustrate the manner in which the frieze and the panels are tinted. When the first color is properly applied, the surface will appear as shown in Fig. 19, and when both colors are applied it will appear as shown in Fig. 20, ready to receive the relief decorations.

Applying the Relief Decorations.—To execute the relief decorations, relief plaster and a decorative relief bulb are required. The plaster consists simply of extra-heavy modeling powder mixed with water. Modeling powder prepared especially for making relief ornaments can be purchased in nearly any paint store. It usually comes put up in 5-pound packages, which contain explicit directions for mixing. The style of bulb generally used is shown in Fig. 21. It consists of a rubber pouch, a metal cap, and nine adjustable tips, each of which is used for a special purpose, as will be seen. The bulb is



FIG. 20

filled with plaster through the opening formed at *j* by removing the cap, and it is operated when filled by simply squeezing the pouch.

If it is desired not to go to the expense of purchasing a bulb, a bulb like that shown in Fig. 22 can be used. A bulb of this style can be made by sewing together a piece of oiled canvas *a*, view (a), about 12 inches long and 9 inches wide and then tying it securely to a tube *b* by means of a string *c*, leaving the upper end *d* open. In this condition the bulb is ready to be filled with plaster. After the bulb is filled, the end *d* is tied

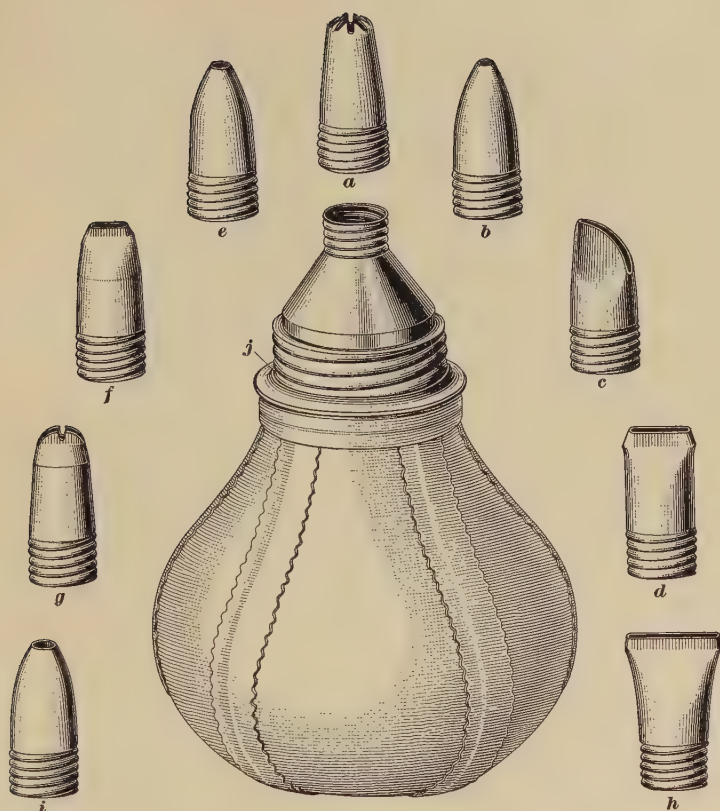


FIG. 21

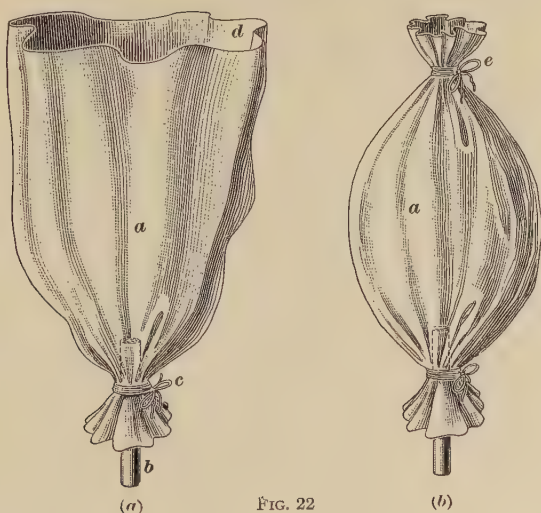


FIG. 22



FIG. 23



FIG. 24



FIG. 25



FIG. 26

with a string, as shown at *e*, view (*b*), when the bulb is ready for use. A bulb of this kind, however, cannot be manipulated so easily as the bulb shown in Fig. 21.

In order to form the relief work, the designs are first outlined by means of the relief bulb in the manner shown in Figs. 23 and 24, for which purpose bulb tips like those shown at *e*, *b*, and *i*, Fig. 21, are used, depending on the width of the line that is to be made. Next, as shown in Fig. 25, the beading is formed by means of the tip shown at *a*, Fig. 21; and, finally, the leaves, ribbons, and other parts of the relief decorations are applied.



FIG. 27

as shown in Fig. 26, in which case use is made of the tips *c*, *d*, *h*, *f*, and *g*, Fig. 21.

To get good results when doing hand relief work, all mixings of plaster should be used immediately and applied quickly. In fact, it is best to mix only sufficient plaster for one bulb at a time. The bulb and tubes must also be thoroughly cleaned at each filling. The tubes may be cleaned easily by holding them under water and then running the bristles of a long bristle brush back and forth through them. A good plan is to use two relief bulbs, having an assistant clean and fill one bulb while the other one is in use.

21. Instead of forming relief ornaments by means of a bulb and plaster, it is sometimes advisable to use ready-made; plaster relief ornaments. Such decorative pieces may be obtained in great variety and in designs similar to those shown in Fig. 27. In order to prevent such ornaments, especially the large ones, from breaking or falling to pieces in handling, they are pasted to a strip of cheesecloth, which of course must be trimmed away, as indicated by the extra wreath, torch, and shell in the illustration, before the ornaments are mounted on a surface. Plaster ornaments may be mounted on surfaces



FIG. 28

by means of paste, shellac, or glue. For temporary work, a heavy flour paste or shellac will be found satisfactory; but for more permanent work, fish glue should be used. As fish glue is of a dirty color, whiting or plaster of Paris should be mixed with it, so that any ooze or daubs caused in the mounting and handling will not discolor the relief designs or painted surface.

Other ornaments suitable for relief work are shown in Fig. 28. They are made of papier mâché and of such metals as zinc and tin. The cost, however, will be found to increase in the order

in which the different kinds of relief ornaments are mentioned. Hand-relief decorations are the least expensive, especially for temporarily displays, but they require greater skill and care in their application than do ready-made ornaments.



FIG. 29

22. Relief work of any kind may be heightened in effect by high lighting with gold, silver, or copper bronze. The simplest way to do this is to dip a small sponge in the liquid bronze and rub it over the relief designs; thus, all the high points will receive a touch of bronze. When desired, the whole

surface of the relief work may be bronzed or colored by means of a brush.

23. Stippling is usually resorted to when it is desired to produce a surface having a different appearance from one that is painted in the common way; that is, by means of a brush. Stippling may be done in various ways. Fig. 29 shows a good example of a



FIG. 30



FIG. 31

stippled surface. To produce this style of stippling, the surface to be decorated and a sheet of stiff paper—preferably manila paper that has previously been oiled or shellacked—of the exact size of the surface are coated with either oil paint or cold-water paint. The paper is then placed on the sur-

face and rubbed hard and thoroughly with the hands, as shown in Fig. 30, so that the two painted surfaces will adhere to each other at all points. The desired stippled effect is then produced as shown in Fig. 31; that is, the paper is grasped at the top *a* and pulled downwards, away from the surface. It



FIG. 32

may be well to mention here that the heavier or thicker the paint, the higher the stippled effect, or relief, will rise from the surface of the space thus decorated.

In another method, stippling is done by means of a block of wood, as shown in Fig. 32. First, the surface to be stippled

is heavily coated with paint, and the block, the bottom of which is also coated with paint, is then pressed repeatedly on the surface, beginning at an upper corner and working across the surface and downwards. About the only care to be taken in stippling with a block is to draw the block off each time from the top downwards.

Stippling may also be done by patting a painted surface with either a paint brush or a piece of cloth rolled into a ball. A brush or cloth, however, produces only light stippling.

A good effect is produced on a stippled surface by dusting



FIG. 33

it with dry bronze or flitters before it is dry. The best way to do this is to dip a dry brush into the powder and then blow the powder off on to the wet surface.

24. Panels Ornamented With Art Materials.—Surfaces divided into panels and then filled in with plush, cretonne, denim, wallpaper, or some similar art material, as shown in Fig. 33, are often found to be effective. In such surface decoration as this, the covering material is usually cut according to the pattern used in forming the panels. It is then secured to the surface, and the design is finished by nailing strips of neat

molding around the edges of the panels. Wallpaper, of course, is pasted to the surface, but plush, denim, and similar materials are usually secured by means of tacks. These are driven along the edges of the material, which should always be smooth and free from wrinkles when in place. The molding should by no means be put up before the covering material, because its purpose is to hide the edges of this material.

25. For decorating surfaces in the preceding manner, the style of wallpaper known as *onyx paper*, a sample of which is shown in Fig. 34, is very desirable. Such paper comes in 24"×30" sheets and in several designs and shadings—eight styles in light yellowish colorings, four in red, and two in green. The imitation of onyx is extremely realistic, and easily deceives the observer.

If, in fresco work, the space surrounding plain tinted or stippled panels is papered with a blend of onyx paper, a beautiful effect will be produced. Onyx paper is also suitable for decorating the shafts of columns. When shafts decorated in this manner are used in conjunction with bronzed plaster-cast caps and bases, the appearance is that of real onyx columns. To the practicing trimmer, many other ways of using this paper will be suggested in the ordinary course of designing and decorating.

26. Panels Formed With the Air Brush.—In many instances, odd-shaped panels are formed on surfaces by means of an air brush. Such decorations can be made quickly, but require the use of patterns. The patterns are cut out of heavy paper in the manner previously explained, and are then coated with oil or shellac so as to prevent the paper from tearing and its edges from curling when moisture strikes it. The patterns thus prepared are tacked to the surface that is to be paneled, and the space not covered by the patterns is decorated with the spray of paint that comes from the air brush. When the patterns are removed there remain panels that are perfectly plain. Fig. 5 serves to show how a surface will appear when treated in this manner.

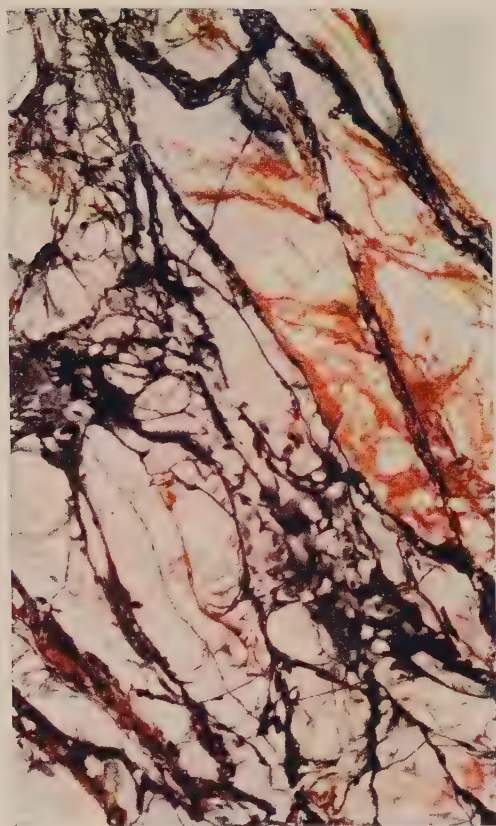


FIG. 34

FRAMEWORK

MATERIALS FOR FRAMEWORK CONSTRUCTION

27. The framework for temporary backgrounds, window settings, booths for exhibitions, etc. requires no small amount of attention from the window trimmer, and in order to do effective work, he should always have a good supply of materials on hand. As a rule, the stock of materials for framework construction should include a liberal supply of poplar or pine strips of the following dimensions: 1 inch square by 10 to 16 feet in length; 1 inch by 2 inches by 10 to 16 feet; bendable strips, $\frac{1}{4}$ inch by $1\frac{1}{2}$ inch by 10 to 16 feet. To have the preceding strips made from 16-foot lumber is the most economical, because there is less waste in cutting for the average decorative purposes. A good supply of planed boards is also needed; they should be 1 inch thick by 12 inches wide for platform and shelving use, and $\frac{1}{2}$ inch thick for cutting out fancy designs and for sheathing arches, etc. Heavier lumber is at times required, but that is usually ordered as needed, and is rarely kept on hand. Another important item is a bundle of window-shade sticks; these may be secured from any upholstery stock in bundles of 500. An almost indispensable article is the ordinary roll hoop; these are very cheap when bought in gross lots as put up by toy manufacturers.

Another excellent material to have on hand is the so-called *compo board* or *beaver board*. This material comes in pieces $\frac{1}{4}$ inch thick, 4 feet wide, and from 4 to 18 feet long. It is composed of layers of paper, cement, and wood and is unusually strong. On account of being thin and light in weight, it can be sawed into any design; also, because of its great width, it is a very desirable material from which to cut out scrollwork or to form panels. In some cases, too, use is made of heavy cardboard, but this material is not very satisfactory.



FIG. 35

In addition to the foregoing, it is well to have made a supply of shapes, such as are shown in Fig. 35, for use in the construction of framework. This illustration shows the correct outline and shape of each piece, although the sizes may be varied from the small ones cut from cardboard to any size required or desired, which may be constructed of wood or other substantial material. The same proportions, however, should always be maintained. Many of these shapes, such as harps, anchors, etc., may be used either singly as centerpieces or in combination with other shapes in the construction of such special or general features as arches, lattice frames, etc. It is always advisable to take good care of the various shapes when once made, because they can be used almost indefinitely both for window displays and exposition decorations.

CONSTRUCTION OF SHAPES FOR FRAMEWORK

28. Odd-shaped designs like those shown in Fig. 35 are usually made of pieces of lumber. Several boards are held together temporarily by means of cleats, and the shape to be cut out is drawn on these boards, a pattern made of stiff, heavy paper being used as a guide. The boards are then sawed out separately and fastened together permanently with cleats or in some other way.

Patterns for ovals and diamond-shaped designs are made in the same manner as those used for panels, as described in Arts. 7 and 10. Patterns for shapes whose two sides are alike, such as those for hearts, horseshoes, shields, etc., are made in practically the same way as patterns for odd-shaped panels. However, instead of folding the paper into fourths, as shown in Fig. 6, it is folded into halves. By cutting the edges of paper folded in this manner, the two sides of the design will be alike. By exercising a little thought, the trimmer should be able to make a pattern for any shape that it is necessary for him to use.

To illustrate how to go about the work of making special shapes for framework, the method of laying out and constructing a scroll will be described.

29. Method of Making a Scroll Pattern.—The method to follow in making a scroll pattern is illustrated in Fig. 36. As shown in view (a), two ovals, the largest one of the size that it is desired to make the outside of the scroll, are first outlined on the paper from which the pattern is to be cut. These ovals are drawn in the manner described in Art. 6. Then, a scroll

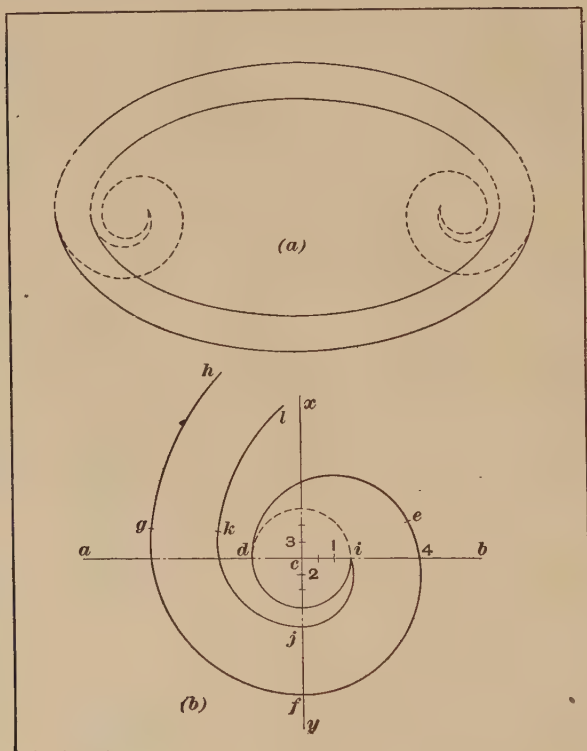


FIG. 36

end is drawn in the manner shown in view (b) and cut out. This pattern is laid on the left end of the oval, in the position shown by the dotted lines, and drawn, after which it is reversed, laid on the right end of the oval, and drawn. Of course, this scroll-end pattern can be placed on an oval in various other ways to form different designs. The scroll design thus out-

lined is then cut out, when the pattern is ready for use. It is advisable to make patterns of this kind in several sizes and to preserve them always for future use.

30. To make the end of the scroll, as shown in view (b), proceed as follows: Draw two lines ab and xy at right angles, as shown. Place the point of a pair of compasses at the point c , which is located exactly where these lines intersect, and draw a circle with a diameter that is one and one-half times the width of the oval band that is to form the body of the scroll. Next, divide the lines that cross the circle into three equal parts. Then place the point of the compasses at the point marked 1 and draw an arc from d to e ; transfer the compasses to the point 2 and draw an arc from e to f ; move the point of the compasses to the point 3 and draw an arc from f to g ; and, finally, continue this curved line by placing the compasses on the point 4 and drawing an arc from g to h . In drawing these arcs the compasses must be set to the proper width from each new center. The inside curved line of the scroll is drawn in the same manner. Place the point of the compasses on the point 2 and draw an arc from i to j . Then complete the scroll by drawing arcs from j to k , and from k to l , using points 3 and 4, respectively, as the centers.

31. Construction of Scrolls.—*Wooden scrolls* for temporary purposes may be constructed quickly. A sufficient number of boards to accommodate the scroll pattern are laid together and secured temporarily by nailing cleats to them,

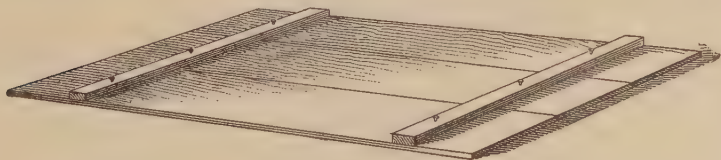


FIG. 37

as shown in Fig. 37. The nails in this case should be driven in only far enough to hold the boards together; that is, so that the nail heads project sufficiently far to permit a nail claw to be used to pull the nails out. The scroll pattern is then tacked

to the boards, as shown in Fig. 38, and the scroll design is traced with a pencil. It is well, however, to place the pattern close to the edge and the end of the lumber, and, by reversing

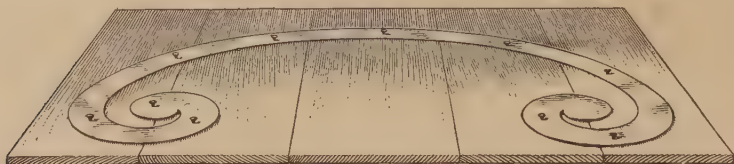


FIG. 38

the pattern, manipulate it so as to get the largest number of scrolls out of a given amount of lumber. The cleats are next removed from the boards, and the design marked on each board is sawed out separately with a compass saw, as illustrated in Fig. 39. Care must be taken in sawing to follow the marks. After all the sections have been cut out, the parts of the scroll

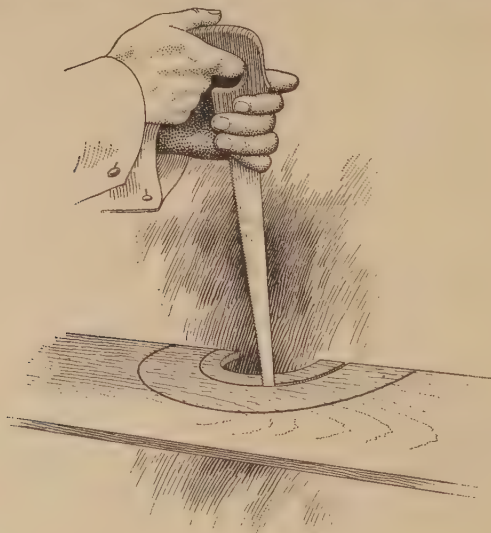


FIG. 39

are assembled, as shown in Fig. 40 (a), and in addition several small cleats, or pieces of wood 4 or 5 inches long, about $1\frac{1}{2}$ inches wide, and $\frac{1}{4}$ inch thick, are laid near them. The

parts of the scroll are then fastened together by nailing the cleats to them, as indicated in Fig. 40 (b). When all the parts

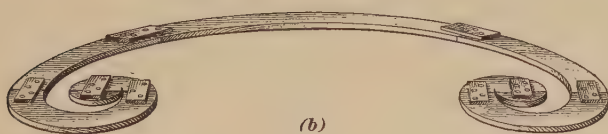
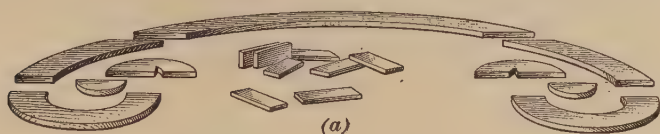


FIG. 40

are cleated together, the front and the back will appear as illustrated in the two views shown in Fig. 41, ready for use.

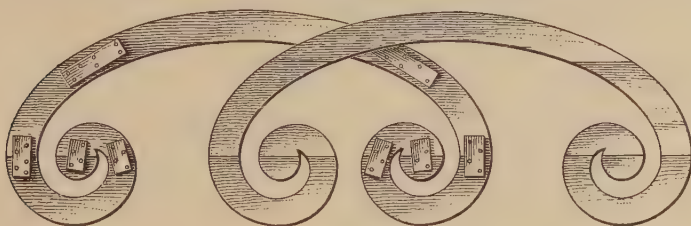


FIG. 41

32. As was mentioned, scrolls made in this manner are suitable for temporary purposes only. They must be handled carefully because of the short grain of the wood at certain

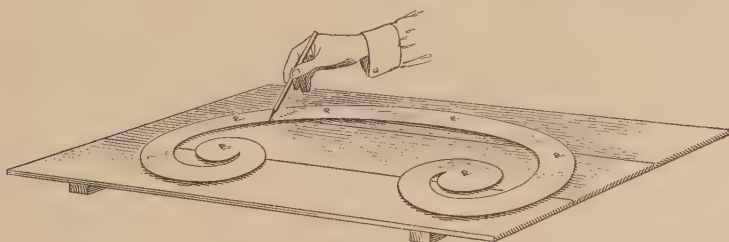


FIG. 42

points, across which they are very easily broken. To avoid this mishap when the scrolls are to be kept as so much deco-

rative paraphernalia, it is necessary to cut out each scroll in duplicate—the first one lengthwise of the boards, as shown in Fig. 38, and the second crosswise, as shown in Fig. 42. The parts for each scroll are then assembled and glued and nailed together as shown in Fig. 43. No cleats are required for

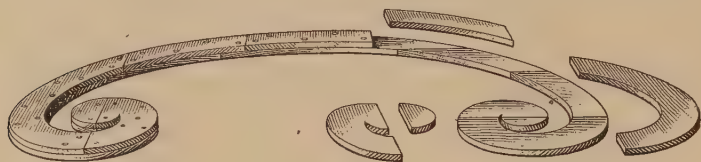


FIG. 43

scrolls made in this way, because sections of one cross the joints of the other. This arrangement also crosses the grain of the wood, so that where one is weak the other is strong, thus rendering the whole almost unbreakable.

33. When the matter of expense is no object, so long as the best results are obtained, it is best to have wooden scrolls cut out and made at a wood-working mill. In such cases the scrolls should be made in triplicate—one part of $\frac{1}{2}$ -inch lumber and two parts of $\frac{1}{4}$ -inch lumber—and the pieces for each scroll cut a different way of the grain of the wood. Then by having the scrolls put together so that the $\frac{1}{2}$ -inch material is between the $\frac{1}{4}$ -inch material, the grain of the wood will cross in three directions, producing a scroll that will neither break nor warp easily. Wooden scrolls, however, whether made in this way or in the manner previously described, should always be laid flat and in some dry place when not in use; if they are kept in a damp room and are not laid flat, they are very liable to get out of shape.

EXAMPLES OF FRAMEWORK

34. Following are shown a number of examples of framework and parts of framework suitable for various purposes. These examples illustrate the manner in which many of the odd-shaped pieces shown in Fig. 35 can be utilized in the construction of framework. From them the beginner should be able to form a good idea of framework designs and be inspired to get up original designs. It should be borne in mind, however, that these are suggestive designs that may be trimmed in many different ways and used for many different purposes. As far as possible, all framework of this kind should be constructed flush on the front side, with the parts held together by cleats nailed across the joints on the back.

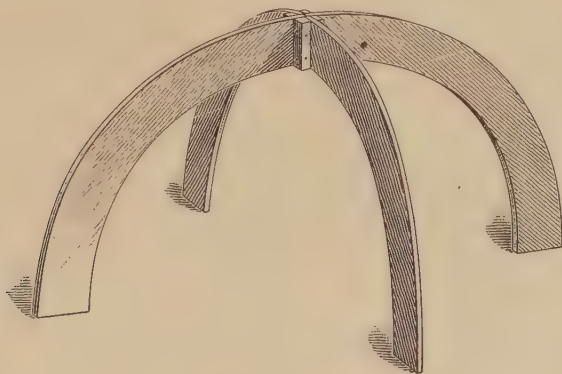


FIG. 44

When such architectural features as cornices, column caps, and bases are desired, they should be made and covered separately and then mounted in place after the main framework is set up and covered. It also often facilitates this work to cover the different pieces of the main framework before they are assembled and nailed into place.

In regard to columns used in connection with framework, it may be well to mention that a handy stock column is made by having the shaft a square box with the base boxed around it at the bottom. At the top have a square board that pro-

jects about 1 inch at all sides, and for the lower capital line miter strips to form a movable collar. In this way the capital effect can be lengthened or shortened as desired.

35. Framework for Domes, Canopies, Etc.—In Fig. 44 is shown how segments of a circle may be arranged to form the ribs for cross-arches, domes, or canopies. Four segments

are simply grouped together at right angles and then secured with square cleats and either nails or screws, as shown. The lower ends, of course, are supposed to rest on the tops of columns or other framework.

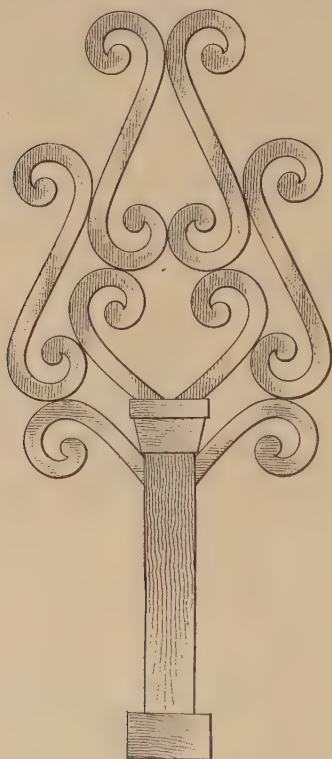


FIG. 45

36. Scroll Framework.

In Fig. 45 is shown an example of framework consisting of several scrolls built up on a single column, and in Fig. 46, an example of framework made up of two columns, four segments of circles, and a number of scrolls. In the latter example, two styles of columns are shown merely to indicate a choice; of course, the two kinds are not to be used together in the manner shown.

Scroll framework for lattices or for tarlatan, crêpe-paper, and similar decorations are illustrated in Figs. 47 and 48. The frame to which the scrolls are secured is made of wood, and the scrolls are made of compo board. As shown in the illustrations, the framework is neatly wrap-covered. The manner in which framework of this kind is fastened together is shown in Fig. 49. The cleats may be either nailed or screwed to the parts.

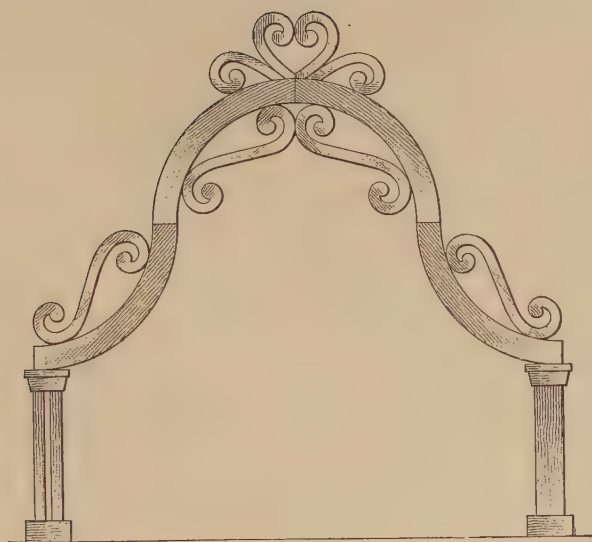


FIG. 46

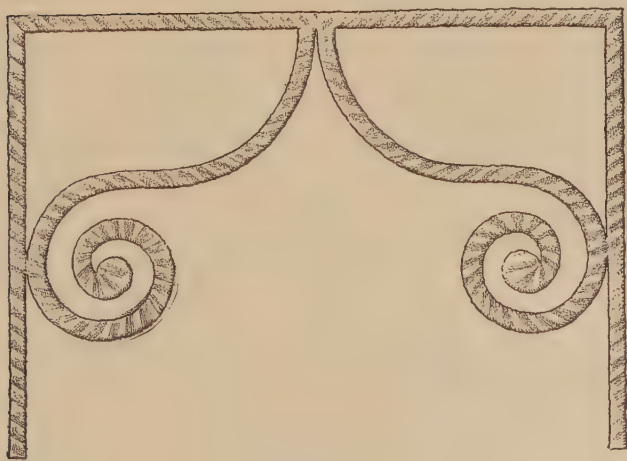


FIG. 47

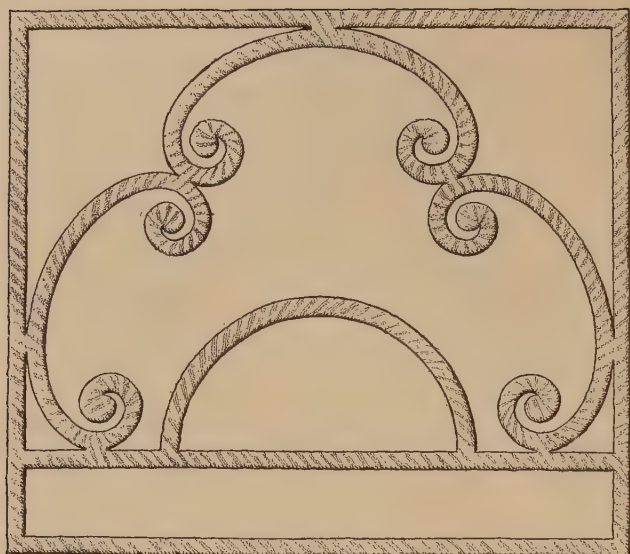


FIG. 48

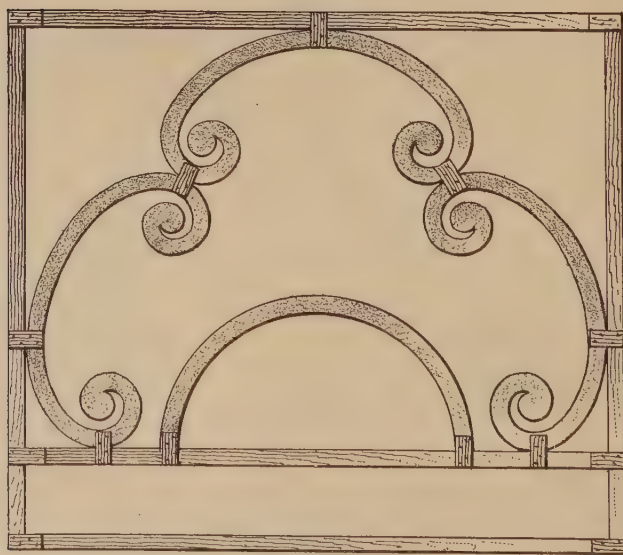


FIG. 49

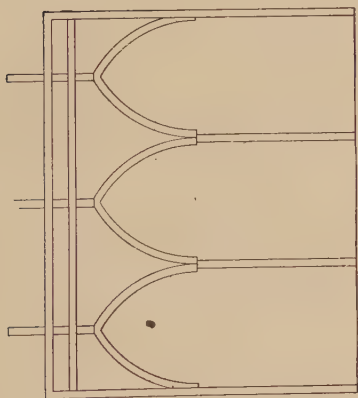


FIG. 50

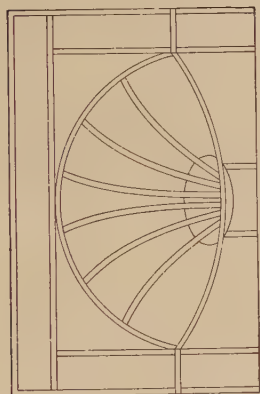


FIG. 51

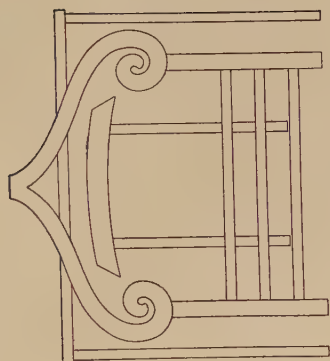


FIG. 52

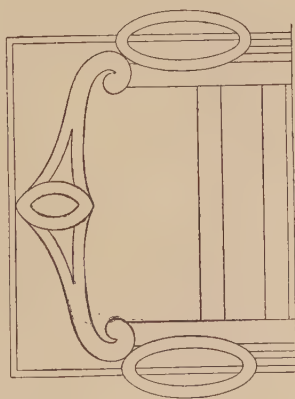


FIG. 53

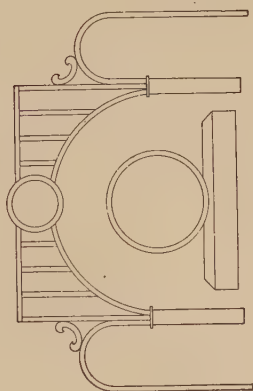


FIG. 54

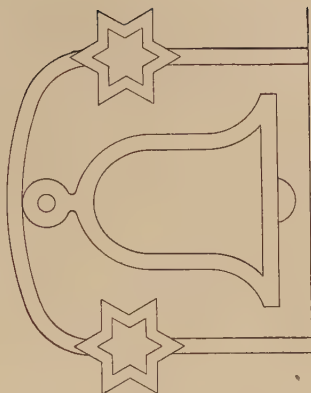


FIG. 55

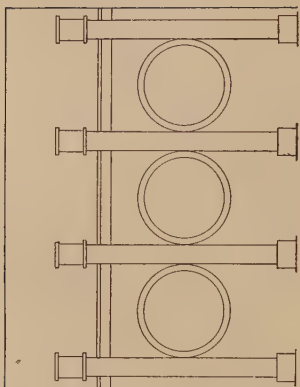


FIG. 58

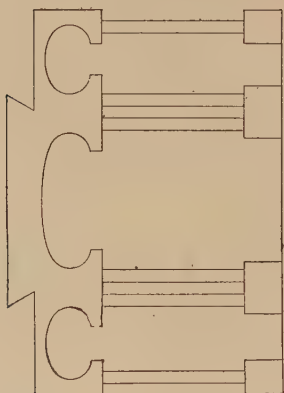


FIG. 57

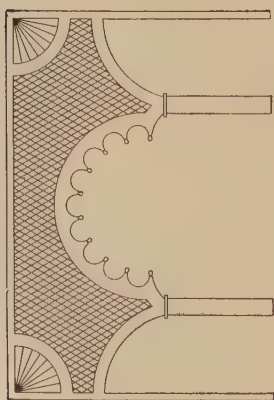


FIG. 56

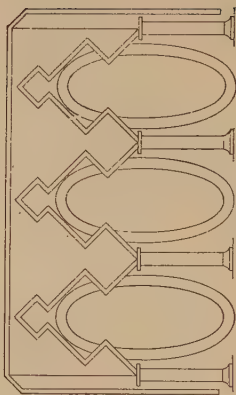


FIG. 60

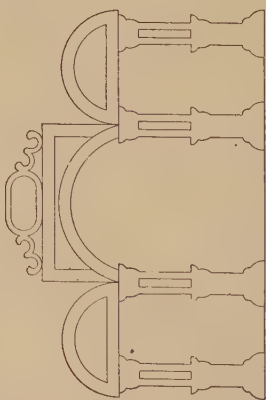


FIG. 59

37. Miscellaneous Framework Designs.—In Figs. 50 to 60, inclusive, are illustrated examples of framework that will be found simple to construct.

In Fig. 50 is shown a simple framework that is made up of 2-inch strips of material and a half dozen sawed-out, curved segments that form three Gothic arches.

Fig. 51 shows a framework in which flexible strips are used to form a curved design. The manner in which the strips are placed and bent should be easily understood from the illustration.

Fig. 52 shows a neat framework in which scrolls figure prominently, and in Fig. 53 is illustrated one in which use is made of three ovals.

Fig. 54 illustrates a framework that can be easily decorated for a display of millinery, and Fig. 55 one that will prove excellent for displays of notions or other small merchandise.

In Fig. 56 is shown a latticed framework of neat design, indicating the introduction of electric lamps in decoration.

Fig. 57 shows a design, the top part of which is made of $\frac{1}{2}$ -inch boards battened together and then cut out as illustrated. Flat strips represent the columns. These, however, may be made round if the bases are box pedestals and the heads are made the same depth as the base boxes. To give depth to the head, two sections, one for the front and one for the back, should be cut out as illustrated, and then connected with slats to hold them in proper shape. These slats should always be set in with the front and back sections nailed to the ends of the slats, so as to obviate all irregularities of outline and permit perfectly smooth covering to be done.

In Fig. 58 is shown a simple framework consisting of columns between which are placed large circles. The shaft of each column may be a flat board, and base and capital lines may be indicated by nailing extra pieces of board on the front.

Figs. 59 and 60 illustrate two suggestive frameworks for study. The design should be easily followed.

DECORATIVE DISPLAY AND EQUIPMENT (PART 5)

FLAT COVERING, PLAINTING, AND PUFFING

REMARKS

1. Since the advent of permanent backgrounds of wood and glass, the decorative processes known as *flat covering*, *plaiting*, and *puffing* are of importance only in forming temporary backgrounds for store windows that are not equipped with permanent backgrounds and in covering and decorating panels, exhibition booths, parade floats, and ceiling and floor spaces. Many effective decorations can be formed by these processes, and, what is more, they can be made without great expense. It will be of advantage to the trimmer to know how to carry out these processes, for, even if there is only limited use for decorations so made, there is no telling when it will be necessary for him to make use of his knowledge in this direction.

2. In this Section are illustrated and described the various ways in which flat covering, plaiting, and puffing are done. The illustrations in most cases show the work performed on small wooden frames made of $\frac{7}{8}'' \times 2''$ lumber, but it is done in the same way, whether on frames, wall spaces, floors, or ceilings, except when the space to be covered abuts, or joins at an angle, another space. In such cases, the edges of the cloth

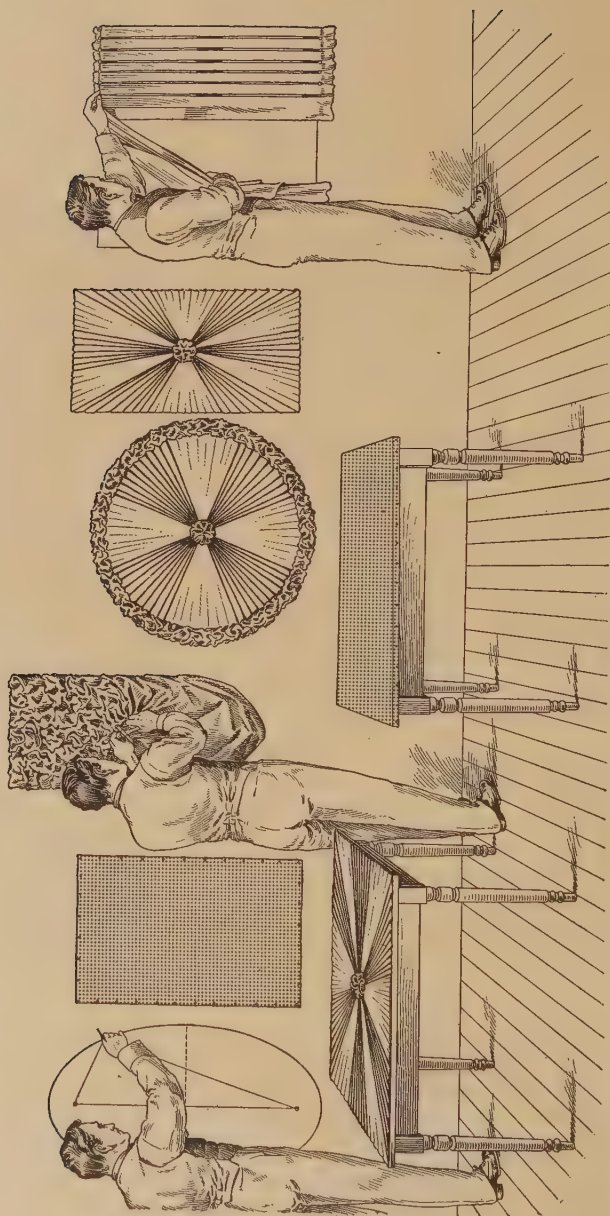


FIG. 1

must be turned under and the folded edge thus formed tacked along exactly following the line of juncture.

In order to become proficient in these decorative processes, it will be necessary to practice them faithfully. For practice work, a frame 2 ft. $\times$ 3 ft. will prove satisfactory, because it is convenient and at the same time requires only a small quantity of goods. However, if desired, the decorative processes can be practiced on a wooden partition or on a table top, as illustrated in Fig. 1. Each of the processes shown in this illustration is explained under its proper heading, and whether or not to practice them in this manner or on frames depends entirely on the individual.

3. For flat covering, use is made of such materials as unbleached sheeting, felt, plush, and similar materials, depending on the kind of finish or effect it is desired to produce. For plaiting and puffing, the best results can be obtained by using cheesecloth, silkoline, or any soft goods. Materials that have a starched or a stiff finish, such as muslins, should not be used, because the stiffness will prevent even plaits or neat puffs from being made. Cheesecloth, on account of being soft, is used mostly for panel work in stores that are not equipped with permanent backgrounds; also, on account of its low cost, it is ideal for use in practicing any of the decorative processes here described.

It is best to use fast-colored materials for all exterior decorations. The fire-underwriters' rules and the insurance laws of most states require that fireproof goods be used for interior decorations, such as those used in show windows, booths, exposition halls, etc. This, however, does not apply to merchandise.

FLAT COVERING

4. **Flat covering**, by which of course is meant the covering of surfaces that are flat with some kind of material, such as felt, plush, muslin, cheesecloth, etc., will frequently have to be resorted to by the trimmer. In many instances it will be necessary to cover panels, screens, floor spaces, etc. in order

to make them attractive; and in forming temporary backgrounds, especially those in which box pedestals, columns, and similar framework are used, this decorative process will be found almost indispensable. Flat covering at first thought may seem to be a simple process, but it will be found somewhat difficult to get the covering materials perfectly smooth and free from wrinkles unless some proper method is employed.

5. Rectangular Surface Covering.—The method of covering a rectangular surface is shown in Figs. 2 and 3. The

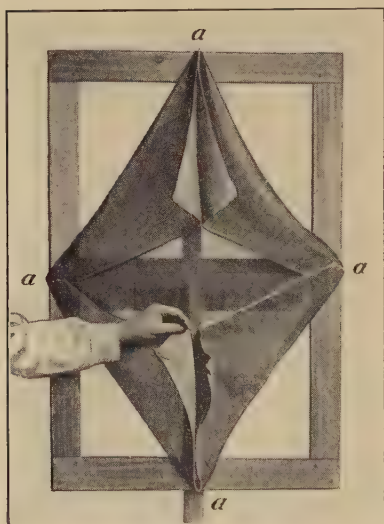


FIG. 2

covering material should be an inch or two larger every way than the space that is to be covered. As illustrated in Fig. 2, the work is begun by tacking the middle points of the cloth edges *a* at the middle points of the frame or the space edges. The first tack is driven at the top and the next at the bottom, the material being drawn across tight, but not so tight as to tear the fabric. Next, one side is tacked and then the other, the goods being drawn tightly as before. The corners of the

material, one after the other, are then drawn out to their respective corners and the goods is stretched hard along the lines leading to the middle tacks. While holding it in this manner, a tack is driven at each side of the corner, as shown in Fig. 3. After the middles and corners are made secure, the rest of the goods is fastened by placing each tack midway between two already in place.

This method obviates the gathering of fulness at any point, which would result in wrinkles otherwise impossible to work

out. It should always be employed in covering large frames or spaces with cloth.

6. Circular Surface Covering.—Frames and spaces that have curved, or circular, edges are more difficult to cover than are rectangular frames or spaces. The method to follow in covering a frame or a space that has a straight and a circular edge is illustrated in Figs. 4, 5, and 6. The work is begun by tacking the goods along the straight side, as shown in Fig. 4.

Next, the material is drawn over and fastened temporarily to the curved edge by driving tacks in only a short distance, as shown in Fig. 5. In fastening the goods at this time, a tack is first placed in the middle and another near each top edge; the remainder of the tacks are then placed so that one always comes midway between two already in place, care being taken to stretch the goods each time a tack is

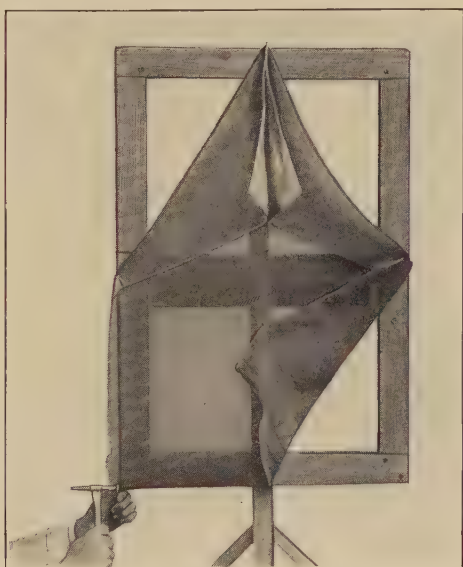


FIG. 3

driven. When thus secured, the surplus material is trimmed off, being cut about 1 inch from the curved edge if the goods is to be tacked finally to the frame edge and about 2 inches if it is to be brought around to the back of the frame, and slashes are cut every couple of inches, as shown in Fig. 6. The slashed edges are then overlapped and tacked firmly in place all around the edge of the curved frame, and the work is finished by removing the tacks driven to hold the material in place temporarily. By overlapping the slashed ends,

the fulness that would otherwise cause wrinkles on the face of the covering is taken up, and after these ends are tacked



FIG. 4

down and the other tacks are removed the front of the frame should be smoothly covered with no tacks in sight.

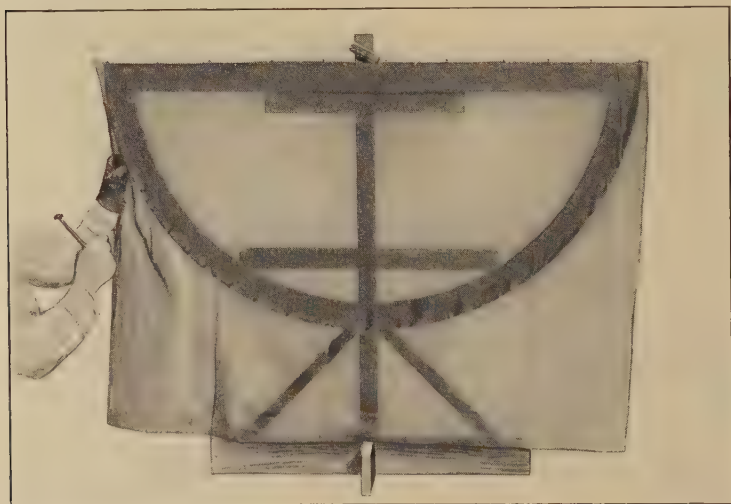


FIG. 5

When a curve ends against an obstruction, as when the floor or ceiling of a window joins a curved glass or a curved frame-

work, the work of covering must be accomplished somewhat differently. Instead of being carried around, the slashed edges must be turned under and the tacks driven in as closely as possible to the curved edge. For this finish, upholsterers' gimp tacks should be used. These tacks differ from ordinary tacks in that they have small, round heads, which render them less noticeable than tacks with flat heads in places where it is impossible to conceal the tacks.

7. Covering of Box Pedestals and Step Fixtures.

In flat covering box pedestals, it is necessary to have the goods



FIG. 6

large enough in one piece to cover all sides. Begin at one corner and then draw the material all the way around. Finish by turning the edge under, overlapping the starting line, and then gimp tacking. Tack the ends of the cloth over on to the ends of the pedestal. Then cover the ends separately with pieces cut slightly larger, the surplus allowing for a turn-under finish. Fasten by gimp, tacking all around close to the edges.

Step fixtures are covered in a similar manner. Put the goods on the risers first and finish by gimp, tacking down the tread covers. Remember that all gimped finishes must be flush with, and neatly following, the edges of the fixture or the space that is being covered.

8. Wrap Covering.—A distinct form of flat covering known as **wrap covering** is illustrated in Fig. 7. For this style of covering the material to be used is torn into strips about 3 inches in width, and then rolled up like surgical band-ages. In wrapping, draw tightly at each turn, folding under the torn edges along the overlap in order to conceal the frayed

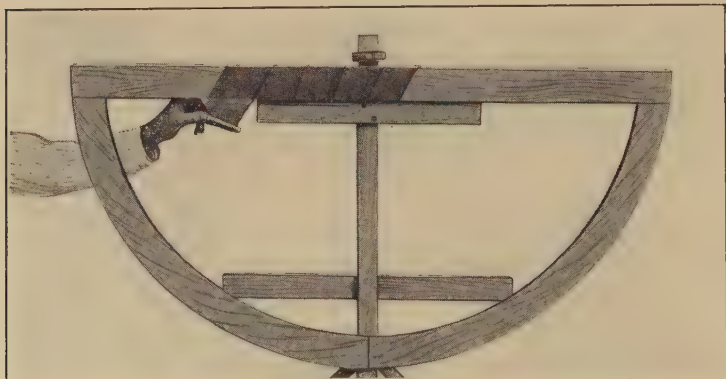


FIG 7

part and give a neat finish. Care should be taken to have the overlap as short as possible, so as to save material and to cover up rapidly. This method of covering is used for the framework of all open designs, such as lattices, scrolls, etc. With practice, it can be very easily and quickly done.

PLAITING

9. The decorative process known as **plaiting** consists simply in doubling goods into folds. The ways in which these folds can be made, however, are many, and for this reason there are a number of styles of plaiting. As was mentioned, the best results in plaiting can be obtained by using soft goods, but just what grades of material to use depends entirely on the use that is to be made of the plaits. In the following articles are described the styles of plaiting commonly utilized by the window trimmer.

10. Side Plaiting.—By **side plaiting** is meant that form of plaiting in which all the folds are turned the same way. When all the folds are turned to the right, it is termed *right plaiting*; when turned to the left, *left plaiting*. This distinction is necessary, because sometimes in covering backgrounds or frames with side plaiting, instead of side plaiting the material one way throughout, the folds are turned to the right on the right side and to the left on the left side and finished with a neat box plait where they meet in the center.



FIG. 8

11. The manner in which side plaiting is done on a wall space is shown at the right in Fig. 1, but to make this plaiting process clear reference is made to Figs. 8, 9, and 10, which illustrate how a frame 2 ft. $\times$ 3 ft. is covered. Two strips of yard-wide goods are required for making the plaits for this frame. These strips should be cut a little longer than 3 feet, however, so as to allow a finger hold for pulling the plaits taut. Before

starting to form the plaits, the goods should be folded or creased very sharp and distinct across the width an inch or two from the end that is to go on top, in order that there will be a line to follow in making the plaits. Beginning at the upper right-hand corner of the frame, as shown in Fig. 8, the selvage is turned under and a tack is driven to hold the goods in place. A plait is next formed by turning the goods under



FIG. 9

about $1\frac{1}{2}$ inches and then tacking it. The entire width of goods is formed into plaits in this way until the center of the frame is reached. In forming these plaits care must be taken to have the overturn slightly overlap the underturn, so that the tack used in fastening the upper part of one plait will also secure the underturn of the preceding plait.

The next step consists in drawing down the plaits and fastening them to the bottom of the frame, as shown in Fig. 9.

The same amount of goods must be turned under for each plait at the bottom as was used at the top, in order that the edges will finish in perpendicular lines. The next strip is then started in the manner shown in Fig. 10. The edge of the material is simply turned under so as to form the next plait, being laid over the edge of the preceding piece; this piece, of course, is always finished out flat without an underturn. After the second strip is plaited, the work is completed by trimming off



FIG. 10

the surplus goods and then putting a decorative finish around the edges of the frame. Decorative finishes for this purpose are described later.

12. Of course, in forming side plaits on a larger surface or a larger frame, more strips of material will be required; but as a rule a yard width of goods is sufficient for a 1-foot space. Sometimes, instead of overlapping the plaits, as was

just explained, side plaiting with more or less space between the plaits is often used in order to save material and make it reach out over a given space. In such cases, two tacks should be used at each side of the plait, one to catch and hold the overturn, and one to serve the same purpose for the underturn. By thus securing the underturn, the goods turn under properly throughout the entire length of the plait, and the plait follows a straight line instead of bulging outwards toward the middle.

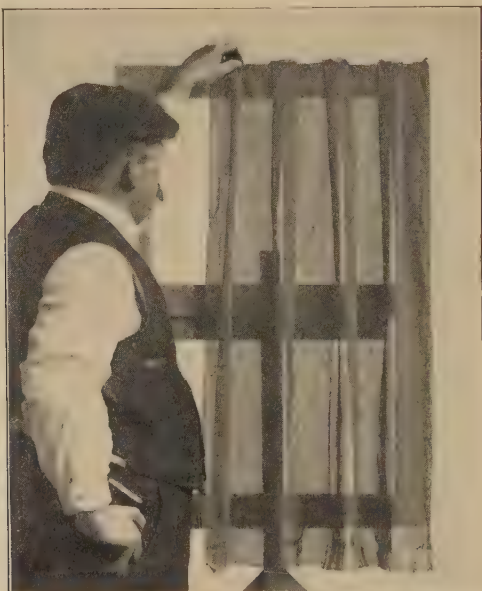


FIG. 11

13. Box Plaiting.—The style of plait known as a **box plait** is a combination of a right and a left side plait; that is, it consists of two equal double folds, one to the right and one to the left. The manner in which cheesecloth, silkoline, or any other soft material is box-plaited so as to cover a frame, or any space for that matter, is illustrated in Figs. 11 and 12.

Before starting to lay box plaits, it is necessary to decide on the width that the plaits are to be made as well as on the dis-

tance they are to be apart, and then mark off the frame or space accordingly, at both the top and the bottom. The work is begun at the upper right-hand corner of the frame or space, and the plaits are laid so that the overturns come exactly at the marks that indicate the plait spaces and the underturns overlap slightly. As shown in Fig. 11, each plait as it is made is fastened with three tacks or pins—one for the underturns that overlap and one for each side of the overturns. When



FIG. 12

all the plaits are formed at the top, they are brought down and tacked in their proper places, as shown in Fig. 12, which also illustrates the way in which a frame covered with box plaits appears. After they are secured, the surplus material is trimmed off, when the covering is ready for a decorative finish.

In covering frames or spaces in this manner, the number of box plaits to a width of material should be so regulated that the width finishes with the final overturn of the last box plait, as shown in Fig. 11. Then the next width can be started by

slipping its edge under the last box plait of the preceding width, just before the last overturn is tacked down.

14. Fulled Plaiting.—In the style of plaiting known as **fulled plaiting**, the material is folded into even plaits that stand out at right angles when mounted on a frame or a flat surface. Fulled plaiting has an advantage over all other styles in that it appears practically the same from all angles of vision. The manner in which fulled plaiting is done on a



FIG. 13

frame 2 ft. $\times$ 3 ft. is illustrated in Figs. 13 to 19, inclusive. Larger frames or spaces are treated in the same way, except, of course, more material is required. The preparations for this decorative process are the same as in side plaiting, the material being cut into the required number of lengths. Each width of goods when formed into fulled plaits will cover a space about 1 foot wide; in this case, therefore, two strips of yard-wide goods are required.

15. The material is prepared for plaiting by turning back about 2 inches at one end of each strip and creasing it into a sharp, straight edge exactly at right angles with the selvage of the goods. Then, as shown in Fig. 13, very regular, even plaits not more than an inch wide are formed along this straight, folded edge. These plaits must be kept flush at the front, back, and top, and both selvages of the goods must be turned toward the back. The plaits thus made are strung on a twine,



FIG. 14

which should be considerably longer than the width of the frame, so that the material can be fastened in place properly. In order to string the plaits, use is generally made of a mattress-makers', or upholsterers', needle threaded with the required twine, which should be knotted at the end to prevent the goods from slipping off. As shown in Fig. 14, the point of the needle is placed against one bunch of plaits about equidistant from the sides and top. Then, with the eye end of the needle resting against a button of the clothing, the plaits are drawn

on the needle, one or two at a time, as shown in Fig. 15. After the plaits are on the needle, they are slipped on the twine in the same manner; that is, one or two at a time. The second bunch of plaits is then strung in the same way as the first, after which the twine is pulled out of the eye of the needle and knotted.

In this condition, one end of the string is fastened at a top corner of the frame by means of a tack, which should be made to pass through the knot and be driven in so that its head grips



FIG. 15

the twine. The other end of the twine is then drawn over a tack placed at the opposite corner, when the work will appear somewhat as shown in Fig. 16. The plaits are next distributed evenly along the twine, so as to scatter the weight of the goods, and, after the twine is pulled taut and given one or two turns around the tack, the tack is driven down hard, firmly securing the twine. The selvage ends are now brought together at the center of the frame, and are fastened by driving a tack so as to catch both ends. As shown at the top of

Fig. 17, the plaits are next distributed equally and secured by driving a tack through the goods in each space between the plaits, the tacks being so placed that their heads grip the twine as they are driven home. At this stage, the plaits are ready to be drawn down and fastened at the bottom. This is done as shown at the bottom of Fig. 17, the work being much the same as in side plaiting. The same regularity, however, can-

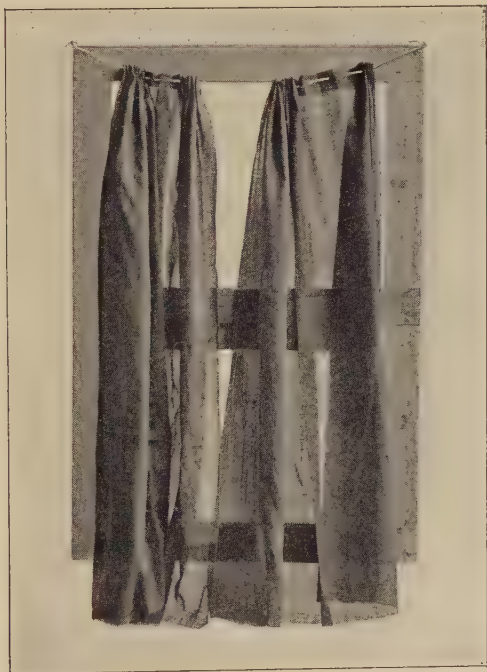


FIG. 16

not be preserved, because the fulled plaits must, like all plaits, be as nearly perpendicular as possible. In order to have the plaits stand at right angles and at the same time be perpendicular, it will be found necessary in fastening them to shift the position of the tacks either to the right or the left; also, the side of the plait through which to drive the tack will sometimes have to be the reverse of the regular order to get the fulled

plait to fall properly. To get the plaits to hang correctly usually requires considerable practice. Therefore, it is always well to bear in mind that all plaits must be perfectly straight up and down with the perpendicular and parallel with the straight edge of the frame or space that is being covered.



FIG. 17

In all plaiting, with the exception of the top of fulled plaiting, the tacks or pins must be set and driven as near as possible to the edge of the fold. This is an absolute rule, and must always be observed; otherwise, the plaits will be slack and limp instead of straight and taut, as is necessary to their proper appearance.

After the plaits are fastened at the bottom of the frame, the covered frame will appear as shown in Fig. 18, ready for the surplus material to be trimmed away and the edges to be covered with molding, strips of cloth, or some other finish.

To give the beginner an idea of the use to which fulled plaiting may be put, reference is made to Fig. 19, which shows a neat background of material plaited in this manner.

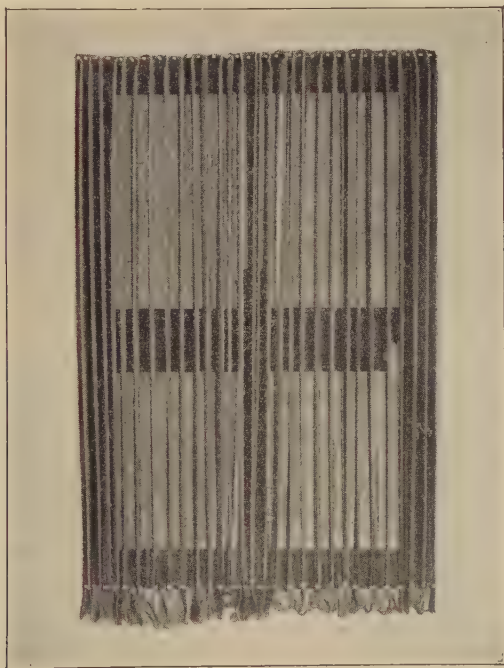


FIG. 18

16. Sunburst Plaiting.—The decorative process known as **sunburst plaiting**, as well as by the names *ray*, *over-nail*, and *panel plaiting*, consists in forming plaits that radiate from a common point. The strips of material to be used in covering rectangular frames or spaces with this style of plaiting are cut as they are needed; but for circular frames or spaces, where all points of circumference are equidistant from a given point, all the strips required will be of the same length and

may be made ready beforehand. The length of the strips will of course depend on the size of the frame or the space that is to be covered, but it should always be great enough to reach from the middle of one side of the frame or space out to both opposite corners, allowing something over for a hand hold.

17. The manner in which sunburst plaiting is done is illustrated in Figs. 20 to 22, inclusive. A length of goods is



FIG. 19

first folded across its exact center and creased so as to form a line that can be followed in forming the plaits. The goods is then doubled into 1- to 1½-inch folds so that each plait thus formed comes on top of the preceding one, as shown in Fig. 20, care being taken to have the crease run straight and true. When the entire width of goods is folded in this manner, the plaits are grasped as shown in Fig. 21—that is, so that their

edges are even at the front—and placed on a nail driven in the wall space or the frame, as shown at *b*, Fig. 22. The nail



FIG. 20

over which the plaited goods is laid should always be driven slantingly, as shown, and should project only the width of the



FIG. 21

plaits in order that the material will not slip off and the edges of the plaits can be brought flush with the nail head. One

part of the folded goods is then fastened temporarily with a pin, as shown at *c*, and the plaits of the other part are carried down and fastened to the bottom of the frame or space with tacks or pins, as shown in the space from *d* to *e*. The pin *c* is then removed and the plaits of the other part are carried down and fastened in their proper places in the same manner.

Although the illustration shows the plaits as they appear when finished, it must not be inferred that a strip of goods

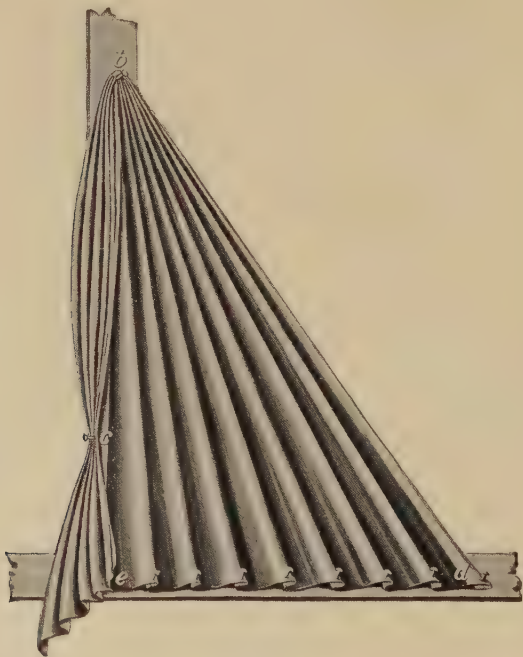


FIG. 22

will finish in this way without trimming it. The material that hangs below the frame or space must not be trimmed, however, until all the plaits are secured in place.

18. A good idea of the use to which sunburst plaiting can be put may be formed by referring to Fig. 23, which shows a combination of fulled and sunburst plaiting as used for backgrounds. Other examples of sunburst plaiting are shown

in Fig. 1, one being formed on a table top and two on the wall space.

To illustrate how a wall space or a frame may be neatly covered with sunburst plaiting, reference is made to Figs. 24 to 28, which show the various steps to be followed in covering a rectangular frame. The frame used for this style of plaiting differs from the frame used for the other styles of plaiting



FIG. 23

in that it has an extra strip of wood in the center in which the nails required in forming the plaits can be driven. The plaiting is started as shown in Fig. 24. The strip of material, which should first be laid into plaits in the manner already explained, is laid over a nail driven a short distance below the center of the board in the middle of the frame, and its ends are then brought down and tacked from *d* to *e*. When

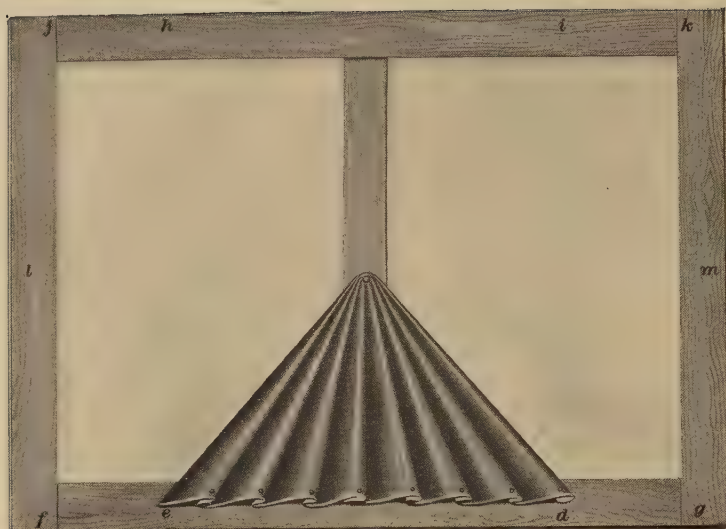


FIG. 24

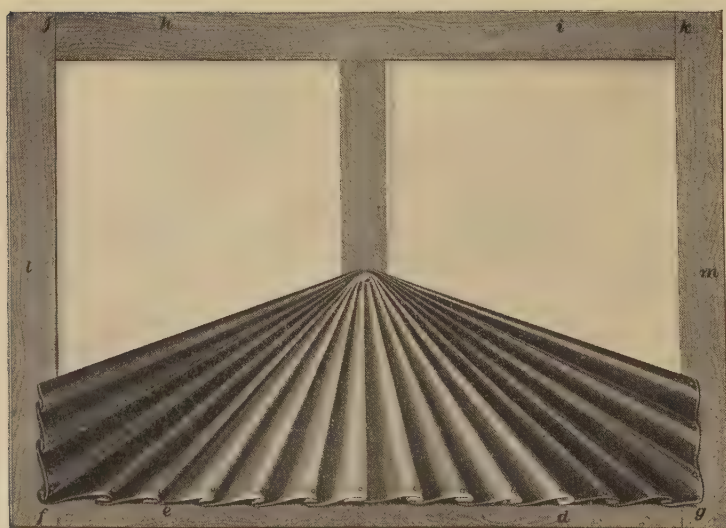


FIG. 25

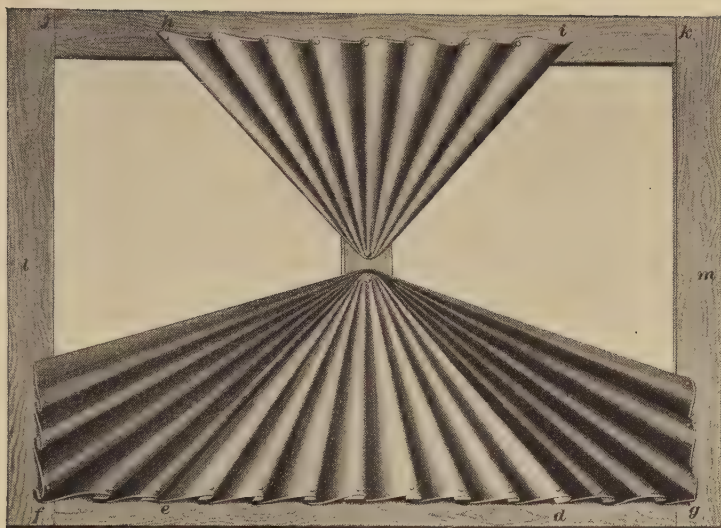


FIG. 26

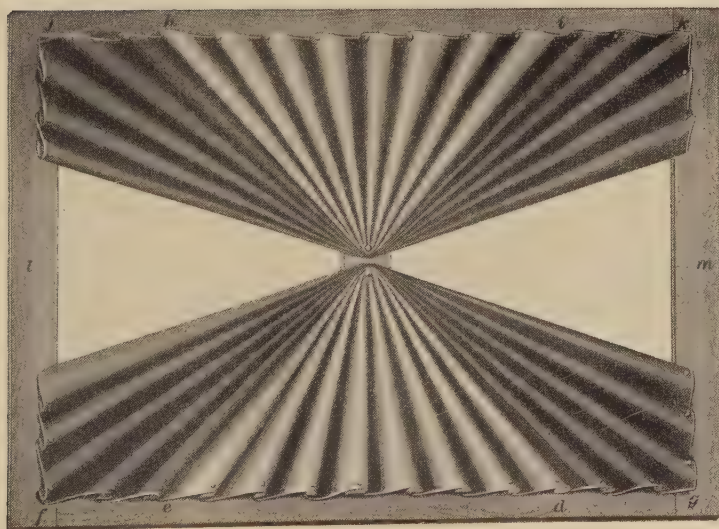


FIG. 27

this strip is in place, another length of material is cut, cross-plaited at the center, laid over the first piece of material, and then fastened to the frame, as shown at *f* and *g*, Fig. 25. The next two steps are the same as the first two; that is, another nail is driven and plaits are formed from *h* to *i*, as shown in Fig. 26, and from *j* to *k*, as shown in Fig. 27. Finally, as shown in Fig. 28, another length of material folded into plaits is inserted between the goods over the nails and then brought to each side *l* and *m* of the frame and fastened.

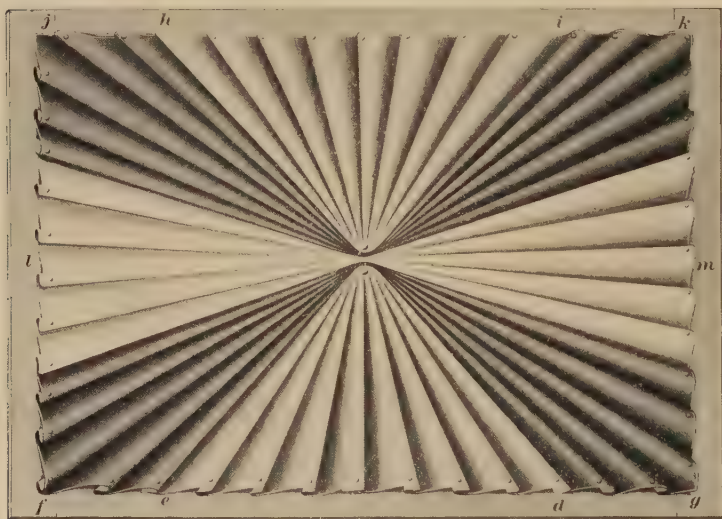


FIG. 28

Although the illustrations of this process show the material neatly trimmed, trimming should not be done until all the strips of material are plaited and fastened in place.

19. This same method, namely, that of using nails, can be used in any style of plaiting where the goods are to be brought to a sharp point. To obtain the result shown in Fig. 28, the strips may vary in width or they may be uniform, as shown. In order to have them uniform in width, it is necessary to space the frame first. The best way to do this is to figure out the width of each color space and then work

each width to that measure. The proper method is to join the widths at the ends. The selvage of the preceding width is tacked out flat without an underturn. Then the first plait of the succeeding width is laid over it, the regular distance from the last plait of the other one. This gives the appearance of continuous plaiting and makes the whole, when finished, show up without a break.

20. Wave Plaiting.—The style of plaiting commonly known among window trimmers as **wave plaiting** takes its name from its undulated appearance, and is in reality a sort of continuous form of festooning, to which it is, perhaps, as nearly allied as it is to plaiting. But, as the principal operation in wave plaiting consists in the laying of plaits along the selvages of the material, it will be considered as a style of plaiting.

As in the other styles of plaiting, it is necessary first to mark off the spaces and cut the lengths of material. The spaces should be 30 or 32 inches in width for yard-wide goods, and proportionate for other widths of material; and the goods should be cut in lengths equal to two and one-half or three times the length of the spaces, according to the fulness desired, which is regulated by the variation of the space allowed between the plaits.



FIG. 29

21. The manner in which wave plaiting is done is illustrated in Figs. 29 to 32, inclusive. Plaiting is begun at the

upper right-hand corner of the frame or space, as shown in Fig. 29. For an average fulness, the plaits should be made about 3 inches in width, with a space of about 1 inch between the overturn of one plait and the underturn of the preceding one. In order to prevent the gathering of a bulk of goods that would hinder the work, it will be found best to plait along one side for a foot or two, then on the other side, and thus back



FIG 30

and forth until both sides are plaited all the way down. Fig. 30 shows how the plaits are brought up on the second edge. Care must be exercised to have the plaits follow, as nearly as possible, the cross-threads of the goods; otherwise, the material will be taken up faster or slower on one side than on the other, and the plaits will be correspondingly out of regular order. Fig. 31 shows the start, and Fig. 32 the finish, of the second



FIG. 31

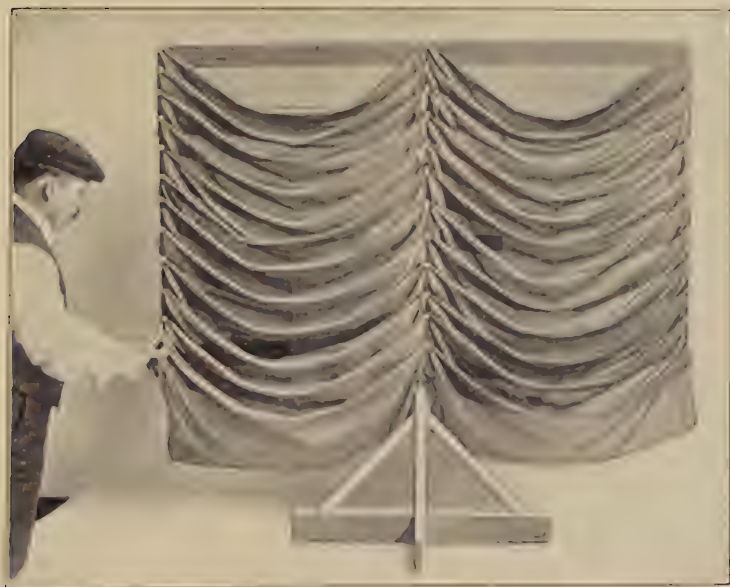


FIG. 32

width. By adding widths in this same manner, any size of space may be covered.

22. The tacks required to hold the plaits in place may be concealed in a number of ways. The simplest and easiest finish for wave plaiting is shown in Fig. 33. For this purpose, tapes, or strips of the material with the edges turned under to resemble tapes, are used. The manner of applying the finishing material is clearly shown in the illustration.

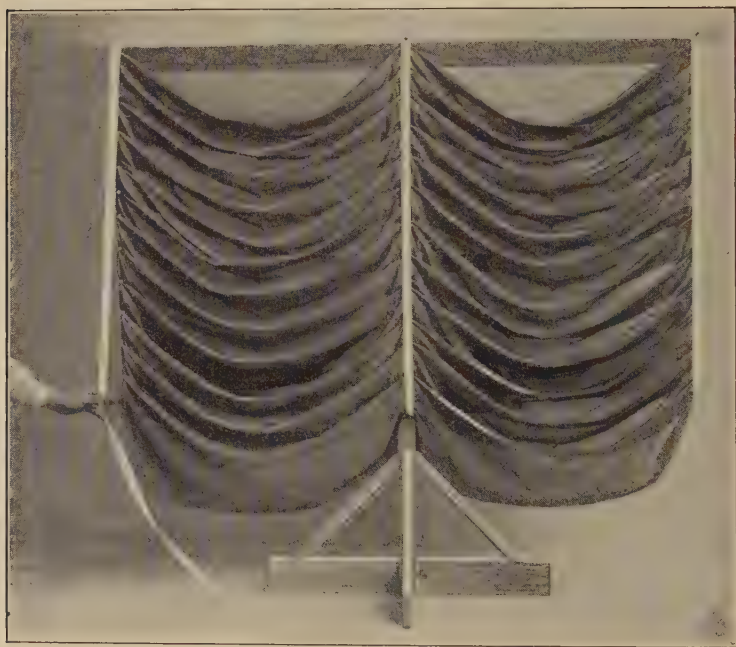


FIG. 33

In the wave plaiting thus far shown, it will be observed that there is a gap between the upper plait and the top of the frame. Such gaps may be dealt with in two ways: (1) by stretching a half width of material across the top of the frame before beginning the plaiting, and (2) by making a festoon drapery along the top, as is shown in Fig. 34, the making of which will be described in another Section.

When wave plaiting is used on frames, the surplus material at the bottom may be trimmed off an inch or two beyond the edge of the frame, and the cut edge tacked over on the back of the frame. When used on permanent wall spaces, it is simply necessary to tuck under the surplus along the line made by the junction of the floor and the background.

23. Wave plaiting may be used effectively in combination with ray plaiting and surface puffing, as is shown in Fig. 35.

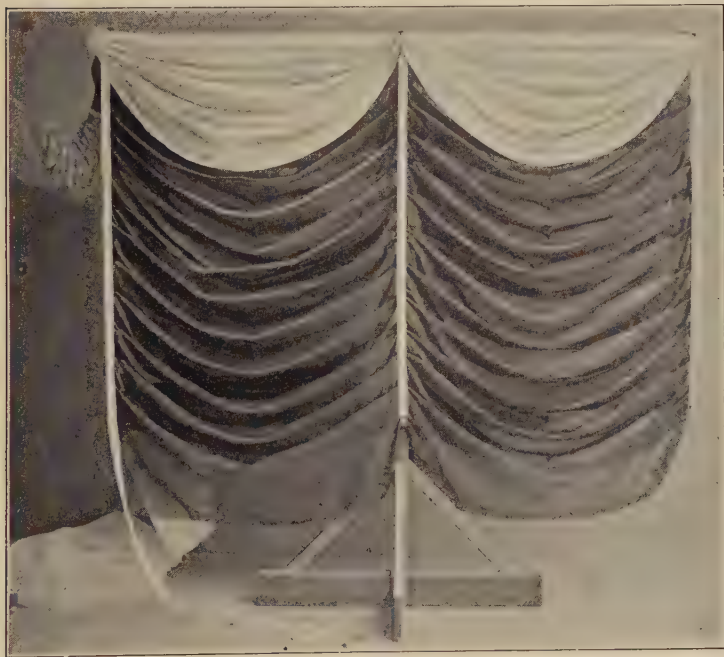


FIG. 34

In this illustration, the wave plaiting is made of white sateen and is finished with red-velvet strips, gilded caps, and moldings. A large jardinière of red roses gives a finished touch to the display. Besides the merchandise used in this display, costumes, millinery, men and boys' clothing, shoes, and infants' wear would show to good advantage in front of this style of background.

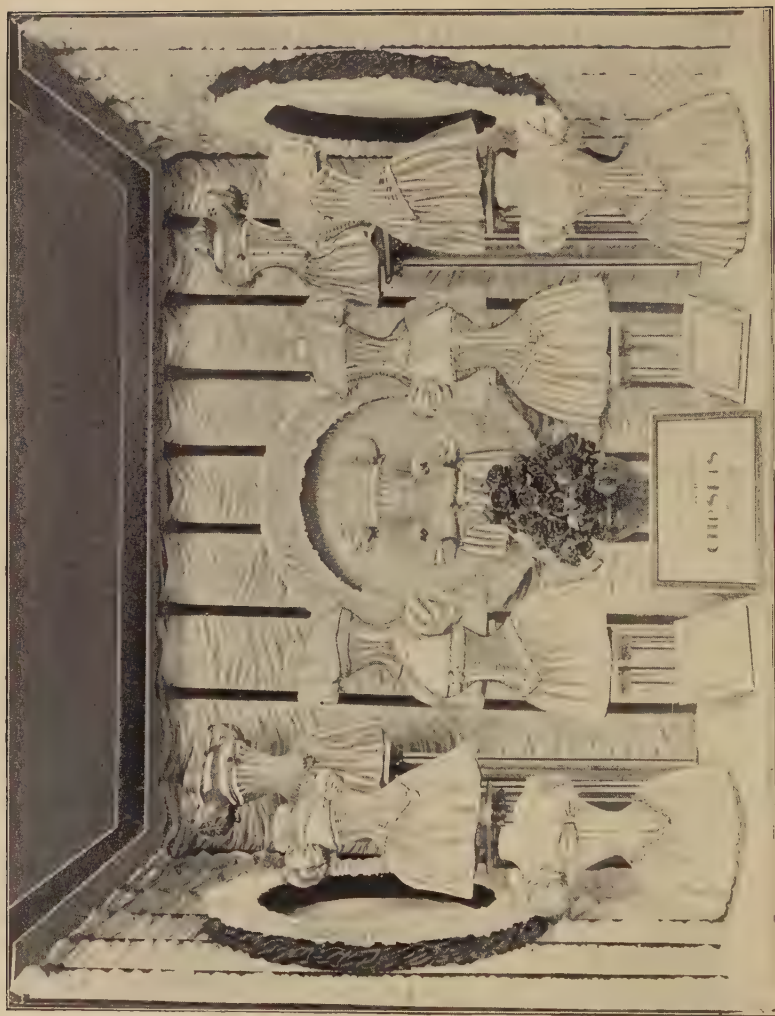


FIG. 35

PUFFING

METHODS OF PUFFING

24. As understood by the window trimmer, **puffing** is the gathering of fabric in such a way as to produce a loose, fluffy appearance. Three methods of puffing are employed for decorative purposes; namely, *shirred puffing*, *ball puffing*, and *fulled puffing*. Of these three puffing processes, shirred puffing is the most important because it can be used for covering all kinds of surfaces, such as background spaces, frames, shields, plaques, the ceilings and floors of windows and show cases, as well as nearly all decorative shapes, such as large Easter eggs, bells, harps, lyres, scrolls, horseshoes, etc., when they are used as special features in designing displays. In addition to this, it is used in forming edging and rosettes for frames and spaces covered with plaiting. Ball puffing and shirred puffing are employed mostly in forming edge trimmings and rosettes, although the latter process, on account of being formed on sticks, wires, etc., is used considerably in making up wreath, scroll, and similar designs.

SHIRRED PUFFING

25. **Shirred puffing** is produced by gathering any soft material into more or less regular puffs, so as to present a crinkled effect. The closer and more evenly the goods are crinkled, the prettier will be the result and the better the shirring as a matter of workmanship. The closeness of crinkle is regulated according to the conspicuousness of the surface on which it is employed, being used more loosely and open on backgrounds and floors, and more carefully executed on special features and centerpieces.

26. Shirr-Puffed Surface Covering.—The method of covering surfaces with shirred puffing is illustrated in Fig. 1 and in Figs. 36 to 41. The surface to be decorated is marked



FIG. 36



FIG. 37

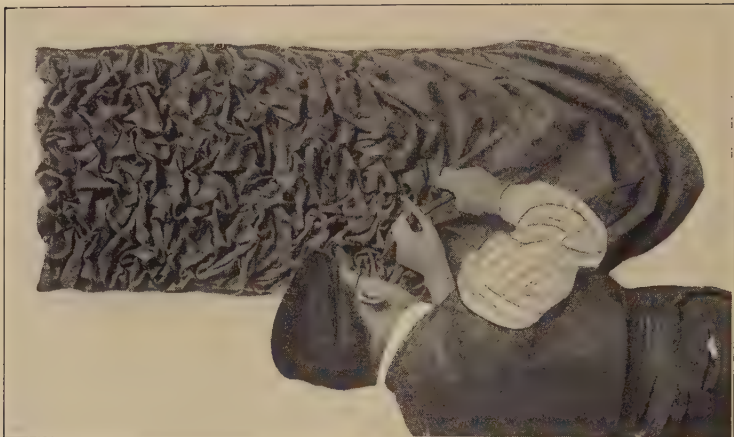


FIG. 38

off into spaces about half the width of the material to be used for the puffing; also, the lengths of the material are cut from two and one-half to three times the length of the spaces, depending on whether loose or close puffing is desired. The closer the puffing, the more fulness of material will be required.



FIG. 39

To begin the shirred puffing, one width of goods is tacked on the first section or width of the space that is to be covered in the manner shown in Fig. 36, the operation being similar to wave plaiting. Indeed, the only difference lies in the width of the spaces, these being much narrower than in wave plaiting, so as to afford sufficient material to puff the surface properly. Puffing is begun by taking the top of the material up

in loops to a line straight with the tops of the tacked edges, as shown in Fig. 37, first in the middle, then in the middle of the loops thus formed, and so on until the material is worked to a comparatively straight top line. The goods is then formed into crinkles with the fingers, as illustrated in Fig. 38. The folds so arranged are retained with the left hand until pins to



FIG. 40

fix them permanently are set and driven in with the other hand. The pins used for this purpose are not bent over, as is done in retaining plaits in place. If they were, they would crush down the puffing and also be much more conspicuous themselves. By allowing them to remain upright, the spring of the puff causes the goods to slide upwards along each pin

until stopped by the head, thus concealing the pins. Just enough pins should be used to hold the crinkles in place. This procedure is continued until the whole strip of goods for one space is shirr-puffed. The second piece of goods is next secured in the same manner as the first, as shown in Fig. 39; but, as illustrated in Fig. 40, care is taken to puff it over the preceding width so as to conceal the line of attachment between them. This is absolutely necessary for a good job of shirring.



FIG. 41

When finished, the whole surface must appear as illustrated in Fig. 41, with absolutely no evidence of two pieces of material having been used.

Any size or shape of space may be covered in this manner. Expert operators attain a proficiency whereby they can shirr without the preliminary tacking of the edges, but to do so requires extreme skilfulness. Hence, for beginners, and especially in the covering of overhead spaces, tacking at the edges

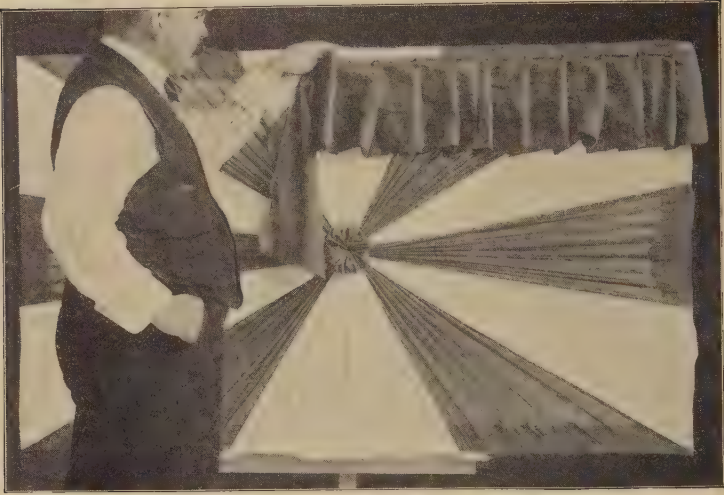


FIG. 42

will be found advantageous, because the puffing can then be done much more easily and rapidly.

27. Shirr-Puffed Edging.—For the finishing of spaces and frames covered with any of the styles of plaiting previ-

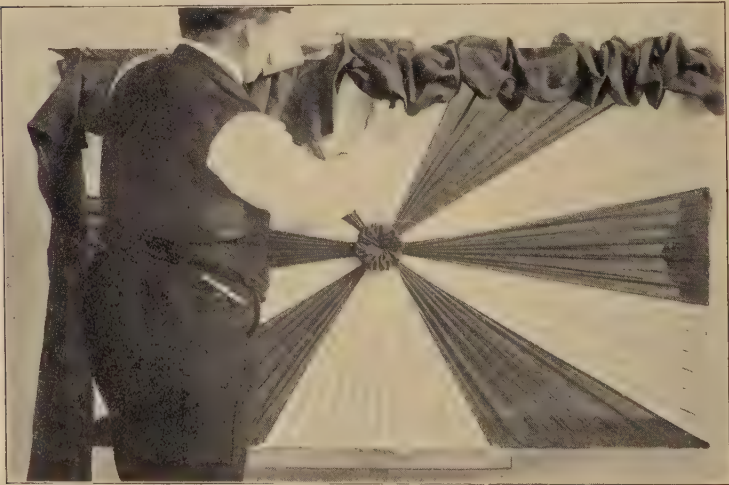


FIG. 43

ously described, as well as for other purposes, **shirred edging** will be found extremely useful. This kind of edging is made in much the same manner as shirred puffing, but the application differs somewhat. Half-width material is usually employed for this purpose, although wider or narrower material may be used, depending on the taste of the trimmer or the amount of fulness desired. For heavy, full edging, the whole width of goods is used, and for thin, light edging narrow strips are required.

28. Figs. 42 to 44 serve to show how shirred edging is formed on a frame, which in this case is covered with sunburst, or ray, plaiting. The process is the same, of course, for any other style of frame or space. A strip of material of the desired width and of any length is folded lengthwise so as to bring the two edges together. Then, with the folded edges held against the frame, the material is laid into plaits and secured to the frame with tacks or pins, as shown in Fig. 42. These plaits are usually made 3 or 4 inches wide, although the fulness of the shirring can be regulated by making them larger or smaller. The tacks or pins used to fasten the plaits should be driven near the double edge of the goods and midway between the upper and under turns of the plaits; also, they should follow an imaginary line that will come near the middle of the finished edging. As will be observed, the edge of the



FIG. 44

material is not fastened along the edge of the frame, but at a distance within that will be equal to about half the width of

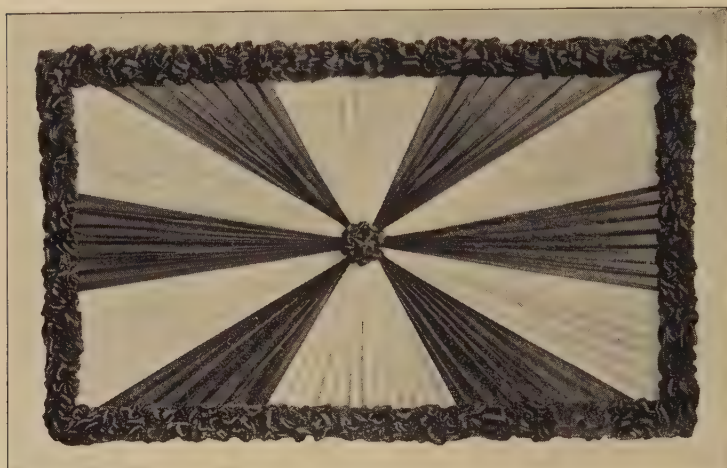


FIG. 45

the shirred edging when completed. Pieces of material are plaited and mounted around the frame in this manner until it

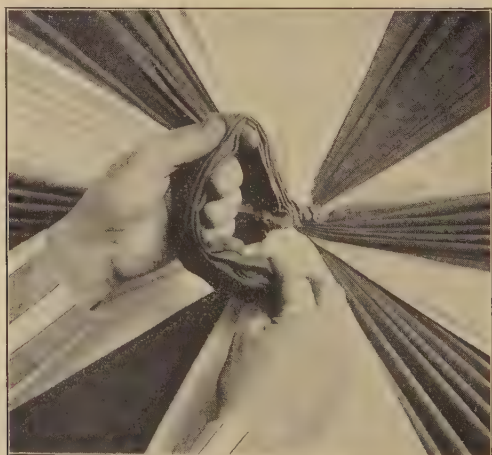


FIG. 46

is entirely covered. Then, as shown in Fig. 43, the sides of the folded material are parted so as to spread it into a crinkled

tube and distribute it for shirring. When in this condition, the material is gathered into even puffs and secured by driving in pins, as shown in Fig. 44, this operation being the same as in forming shirred puffing on flat surfaces. For the reasons mentioned in connection with ordinary surface covering, the pins used to fasten the puffed material must not be bent over. Should the material not be springy enough in itself to slip along the shafts of the pins until stopped by their heads, it should be drawn up along the pins with the fingers each time



FIG. 47

one is driven in place. When the edging around the frame covered with sunburst plaiting is completed, it should appear as shown in Fig. 45, without a joint formed by connecting the goods visible.

29. Shirr-Puffed Rosettes.—For decorated spaces or frames that require rosettes to finish central or converging points, as in sunburst, or ray, plaiting, etc., it is desirable when possible to use a rosette that matches the edging. Thus, with shirred edging, use should always be made of the **shirred rosette**. A square piece of the material used in forming the

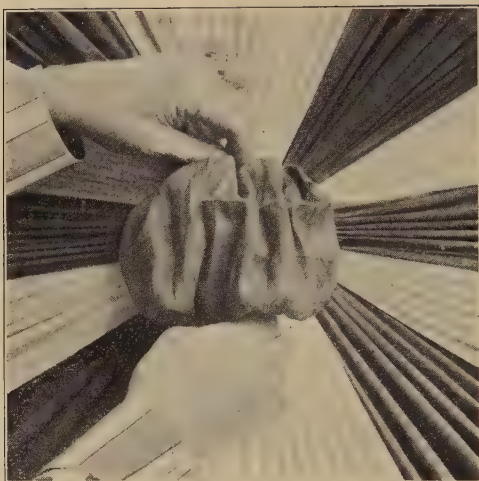


FIG. 48

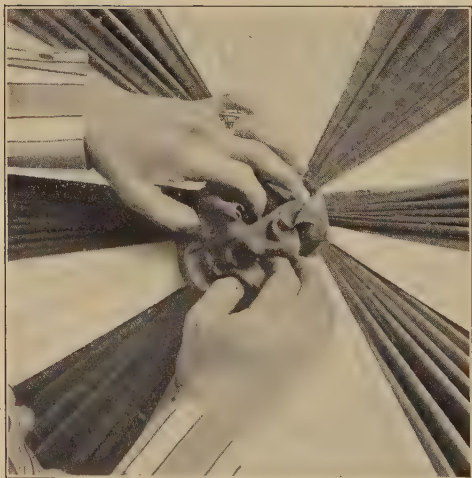


FIG. 49

edging is required to make a rosette. As a rule, a square cut from the width used in shirring the edges is employed; however, the larger the square, the larger and fuller can the rosette be made.

In order to make a shirred rosette, one end of the piece of material is plaited and then tacked securely with the ends pointing toward the center, as shown in Fig. 46. The other end is then plaited similarly and tacked down with the end also toward the center and just touching the other, forming a loop of the material, as shown in the illustration. Next, the goods



FIG. 50

in the loop is opened out in the manner shown in Fig. 47, and each side edge is laid into plaits and tacked under next to the ends already fastened. The result will be a loose, baggy puff like that shown in Fig. 48. Next, as illustrated in Fig. 49, this puff is worked down into even shirr puffs, which are secured as they are formed in the usual way; that is, with pins. When all the shirr puffs are made, the rosette should appear as shown in Fig. 50. To form a good idea of the correct use of a shirred rosette, reference should be made to Fig. 45, which shows sunburst plaiting finished with shirred edging and a shirred rosette.

BALL PUFFING

30. The decorative process known as **ball puffing** consists in forming and shaping fabric in such a way that the finished work has the appearance of crinkled balls. As was mentioned before, ball puffing is used mostly to form rosettes and edging that may be utilized in trimming all kinds of outlines, such as frame and space edges, panels, and dividing lines between widths, as in wave plaiting, etc. It is easily and quickly executed after one has acquired the knack, and is probably the prettiest and most attractive of all edges when well done.

31. Ball-Puffed Edging.—For forming **ball-puffed edging**, a half-width of material is usually sufficient, though



FIG. 51

there is, of course, no absolute rule and the width may be varied to suit the taste or the trimmer's notion as to proper fulness.

Figs. 51 to 56, inclusive, illustrate how ball-puffed edging is formed. A sufficient number of strips of material to cover properly the edges of the frame or space to be decorated are first laid into plaits in the manner shown in Figs. 51 and 52. One end of each strip is laid into plaits with the fingers, as in Fig. 51. This plaited end is then laid on a strip of $\frac{7}{8}$ -inch wood that is about 6 or 8 inches wide and is marked off into 4- or

6-inch spaces, depending on the size of puff that is to be made, and attached temporarily by means of a tack, as shown at *a*,

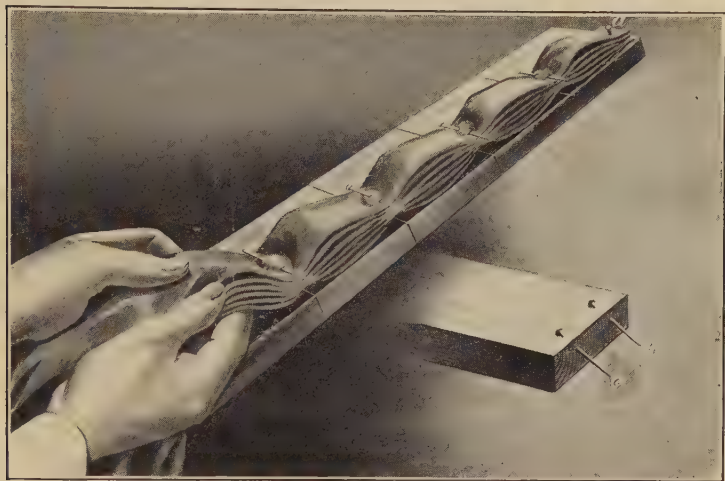


FIG. 52

Fig. 52, or by hooking it over two pins driven slantingly through the end of the wood, as shown at *b* and *c*. When in this posi-

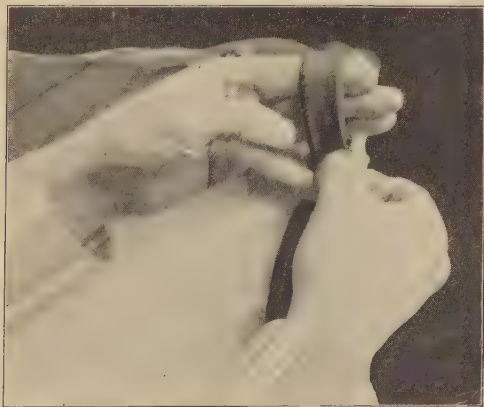


FIG. 53

tion, the plaiting of the goods is continued, as shown, the plaits being secured by a pin at each mark on the strip of

wood. It may be well to mention here that trimmers often plait goods in this manner during their leisure so as to have material ready at all times for ball puffing.

The next step in forming ball-puffed edging consists in securing the plaited material to the edge of the frame or space. As shown in Fig. 53, the end of one strip is secured at the upper



FIG. 54

right-hand corner of the frame or space. Then, each section is laid over three fingers of the left hand and a tack is driven at each point where the plaits are pinned. This process is continued until the entire edge of the frame or space is covered with looped plaits. When a piece of material has to be joined to one already in place, the connection should be made at a point where a pin is located, putting one end of the goods on the end of the other piece and driving pins or tacks through both thicknesses. In some cases

it may be necessary to trim off the ends of the goods in order to make a neat joint. The distance from the edge of the frame or space at which to tack the goods is practically the same as in forming shirr-puffed edging. In securing the plaits to the edges, however, it is important that the spaces between the fastenings be equal; if they are unequal, there will be irregularities in the size and form of the crinkled balls.



FIG. 55



FIG. 56

When the edges of the frame or space are properly covered with the plaited material, the loops are opened out into puffs, forming the crinkled balls. This is done in the manner shown in Figs. 54 and 55. The middle finger of the left hand is inserted through the loops, one at a time, as in Fig. 54, and then the under edge of the goods is secured and drawn over the end of the finger, as in Fig. 55. As is shown in this illustration, the material is also creased between the thumbs and the forefingers of the hands as it is drawn out. Creasing the goods in this way causes each puff to stand up well and be distinctly

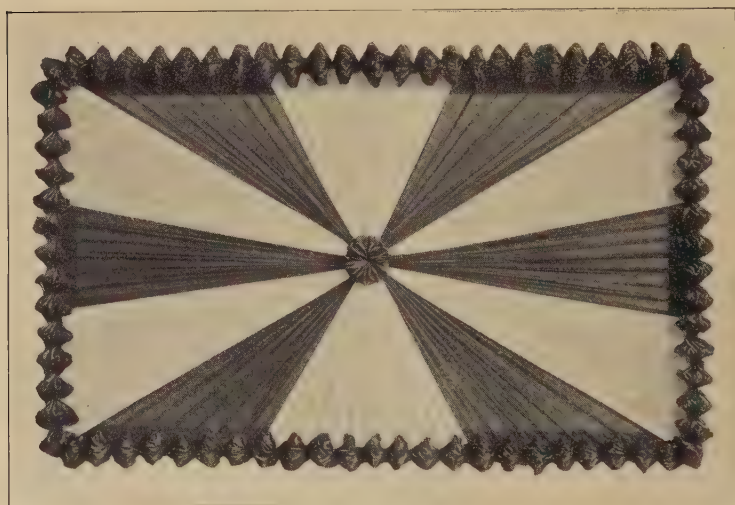


FIG. 57

outlined from its neighbors. All the plaits are drawn out in this way until the parts between the fastenings all the way around the frame or space come up into a crinkled semicircular form, as is clearly shown in Fig. 56.

The appearance of a ray-plaited frame finished with ball-puffed edging is shown in Fig. 57. A *ball-puffed rosette*, the making of which is next described, is also shown in this illustration.

32. Ball-Puffed Rosette.—As a central decoration for use in connection with ball-puffed edging employed for the

trimming of edges or outlines of frames or spaces decorated with sunburst and similar plaiting, a **ball-puffed rosette** is always required. A rosette of this kind consists of two puffs made in about the same manner as those in ball-puffed edging; in fact, the only difference lies in the preparation and the shaping out.

The first operation in making a ball-puffed rosette is shown in Fig. 58. The usual cross-plaited end of half-width material



FIG. 58

is turned under toward the central point, as in making a shirr-puffed rosette, and then tacked in place. Next, a loop is formed, as shown in Fig. 59, and fastened against the turned-under first end. The material is again cross-plaited, and the exact length required for the second loop is ascertained, after which the surplus material is cut off, as in Fig. 60. This end is then passed under and against the middle fastening, and pinned or tacked securely. At this stage, the work should appear as shown in Fig. 61. The upper loop is first drawn

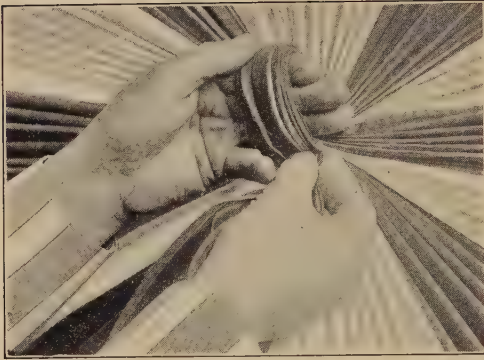


FIG. 59

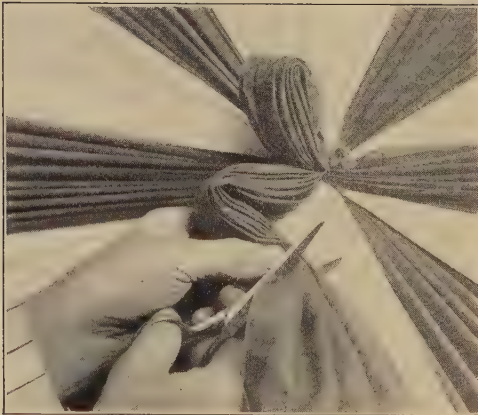


FIG. 60

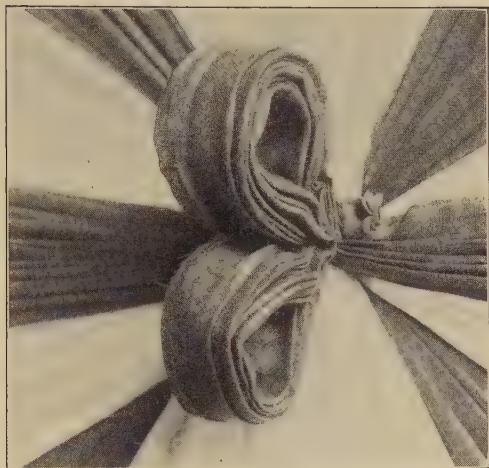


FIG. 61

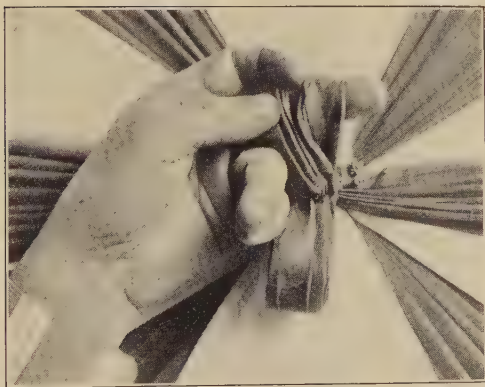


FIG. 62

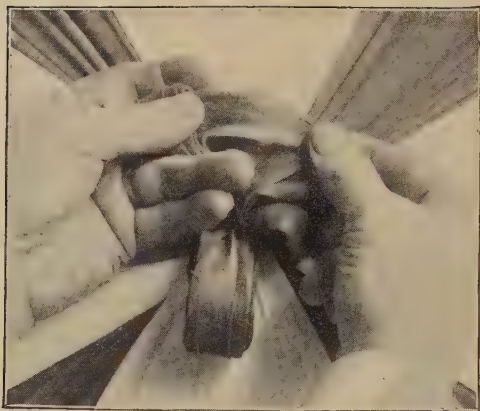


FIG. 63

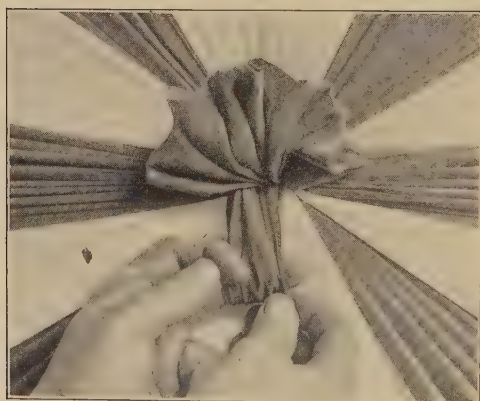


FIG. 64

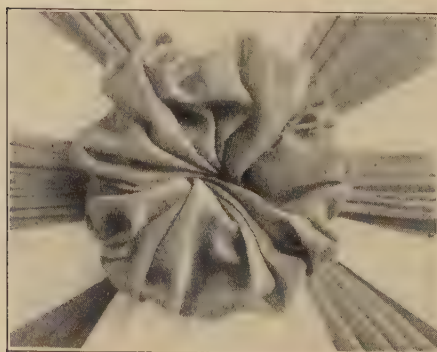


FIG. 65

out and shaped as shown in Figs. 62 and 63—that is, in a horizontal half circle, instead of at right angles with the surface of the decoration—producing the result shown in Fig. 64. This illustration also shows the start for the drawing out of the second loop. This is done by drawing the cloth edges toward the straight side of the first puff. When the two puffs are brought together and the whole touched up so as to work out all irregularities, they will form a fine, even rosette like that shown in Fig. 65.

FULLED PUFFING

33. Filled puffing consists simply in forming tubular pieces of cloth and then shirring these pieces on sticks, tape, twine, wire, or some similar material. It can be used for more

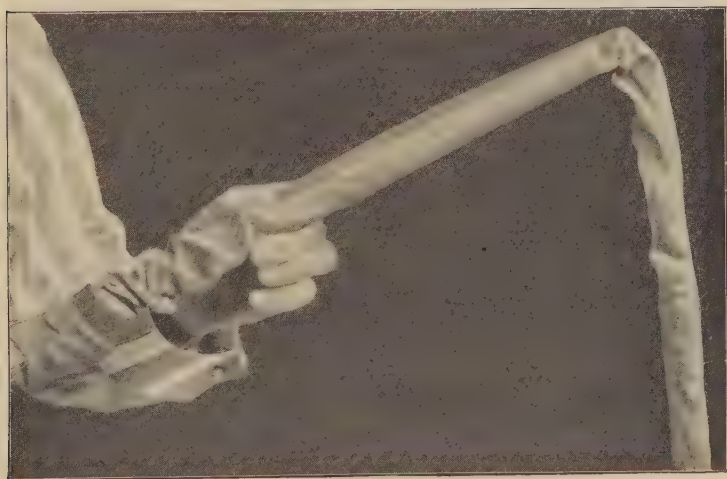


FIG. 66

purposes than the other puffing processes described and is simpler and easier to make.

The material to be used is first cut into suitable lengths, and these, in turn, are torn lengthwise into strips 4 or 5 inches wide. As much of the material used for this purpose comes in yard widths, it is usually torn into eight strips by first halv-

ing the whole piece and afterwards halving the halves and quarters. These strips are then sewed together on a sewing machine so as to form long tubular pieces of cloth. In large stores, this work is usually done by the sewers in the alteration



FIG. 67

department or by some other branch of the female help about the store detailed for the purpose. The next operation consists in turning the tubular pieces. Owing to the length and the narrowness of the tubes, however, this work will be found slightly difficult. An ordinary window-shade stick, or a stick of similar dimensions if a shade stick cannot be procured, is generally employed in turning the tubes. About 6 or 8 inches of the material is lapped on the stick, and then, holding both the goods and the stick with his right hand, the trimmer works the tubular piece over the lapped end of the goods and the stick with his left hand, as shown in Fig. 66. This operation turns the goods inside out and brings the rough seam edge formed in sewing on the inside of the tube. The goods can then be fulled on the stick, or the stick can be pushed out in order that the material can be fulled on wire, string, etc., depending on the use that is to be made of the fulled puffing. A good plan, if the material is to be shirred or fulled on string, is to attach a string to the end of the stick; then, when the stick is

pulled through the tubing the string can be pulled with it.

34. Fulled-Puffed Edging.—A common way of making **fulled-puffed edging** for outlining frames or spaces consists in sliding the tubular material on sticks, as just explained,

and then shirring it evenly on the sticks until it appears as shown in Fig. 67. The sticks should be cut to proper length, and the tubes of material should be from two and one-half to three times the length of the sticks. After sufficient sticks are covered, they are secured to the edges of the frame or space to be decorated by driving pins here and there through both the goods and the wood.

Edging of this kind is sometimes formed by shirring the tubes of goods on strings or tapes, in which case the work is practically the same as that just explained.



FIG. 68

35. Rosettes of Fulled Puffing.—In order to make a rosette of fulled puffing, a piece of wire 2 or 3 feet long, depending on the size of the rosette to be made, is required. Ordinary covered electric-light wire is the best for this purpose, because the copper wire used in electric lighting is soft and pliable and practically devoid of spring qualities or recoil, and will therefore retain any shape given to it better than will



FIG. 69



FIG. 70

other kinds of wire. The goods in the shape of tubes is fulled on the wire good and thick, as shown in Fig. 68, and then dis-

tributed as evenly as possible throughout the entire length of the wire. The covered wire is then rolled into a close coil, as

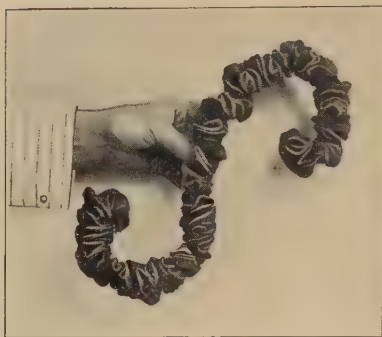


FIG. 71

indicated in Fig. 69, when the end is tucked in close, so as to give the whole as neat and as nearly a circular shape as possible. If properly and carefully executed, the rosette will appear as shown in Fig. 70. Rosettes of this style are generally fastened in place with pins or tacks, as are also similar designs of fulled puffing shaped out of wire.

36. Miscellaneous Ornaments of Fulled Puffing.

By covering wires in the manner just explained and then bending them properly, various other decorative ornaments can be made.

A very useful ornament made of fulled puffing is the *scroll*, an example of which is shown in Fig. 71. Scrolls of this style will prove useful in a number of ways in general designing, as, for instance, corner decorations for frames, scroll outlines for arches, etc.

Another useful ornament is the *loop* or *wreath* made by shirring tubular goods on wire and then bending the wire into a loop, or circle. An example of a wreath of this style is shown in Fig. 72. By using long wires, this combination may be formed into a series of loops, after the manner of



FIG. 72

festooning cords; also, by bending the loops into oblong shapes and linking them together, they can be made to form a chain.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 6)

FESTOONING

REMARKS

1. By **festooning** is meant that form of decoration in which fabrics of various lengths and widths are formed into series of draped loops. There are several standard methods of making up festoon draperies, all of which are useful and are employed more or less in display work. Although festooning

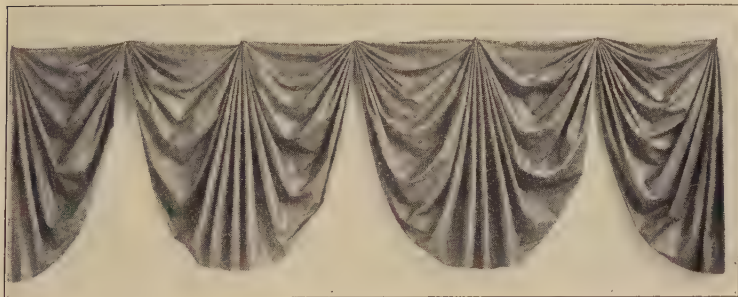


FIG. 1

is occasionally used in forming window displays, it is best adapted for the decoration of floats, exhibition booths, and the interiors and exteriors of stores, halls, and public buildings.

The materials that can be used in festooning range from the thinnest cheesecloth to the heaviest of velour; but just what

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kind to use depends considerably on the purpose of the festooning, the place that is to be decorated, and the amount of money that can be expended. For interiors, the better grades of materials, such as chiffon, silkoline, bunting, etc., are employed extensively, and for exteriors good results are obtained by using cheesecloth and bunting together with flags, shields, and such other decorative materials as the decorator or trimmer may devise.



FIG. 2

The common methods of festooning are known by the following names: *fan*, *turned*, *wheel-rosette*, *turban-rosette*, and *intertwined*. The manner in which these festoons are formed, as well as the application of many of them, is illustrated and explained in this Section. All the processes should be practiced faithfully, because the window trimmer, especially if he is employed in one of the large stores, may be called on at any time to make use of his knowledge in this direction. Cheesecloth, on account of being inexpensive, will be found ideal for practice work, although any other soft material can be used.

FAN FESTOON

2. The **fan festoon**, an example of which is shown in Fig. 1, is exceedingly simple to make. It differs from some of the other styles of festoons in that it is constructed without rosettes. Their places, however, may be occupied by bows, flowers, or knots.

Before attempting to make a fan festoon, it is necessary to measure off the line to be festooned into equal spaces and to indicate these spaces by marks. The first step in making a festoon of this style consists in laying one end of the material

that is to be used into a number of cross-plaits, as indicated in Fig. 2. The number and the depth of the plaits must be regulated according to the width of the goods; but, in any event, they must be made so as to allow the fan shape to be full width and not drag the lower selvage under. Wide materials require a greater number of plaits to accomplish this result than do narrow goods. The bunch of plaits thus formed is fastened at the first mark on the line to be followed and allowed to hang down vertically. The goods necessary to reach from the first mark to the next is measured, and the material at this point is laid into cross-plaits and fastened in place, as shown in Fig. 3. This process is repeated until the required number of vertical

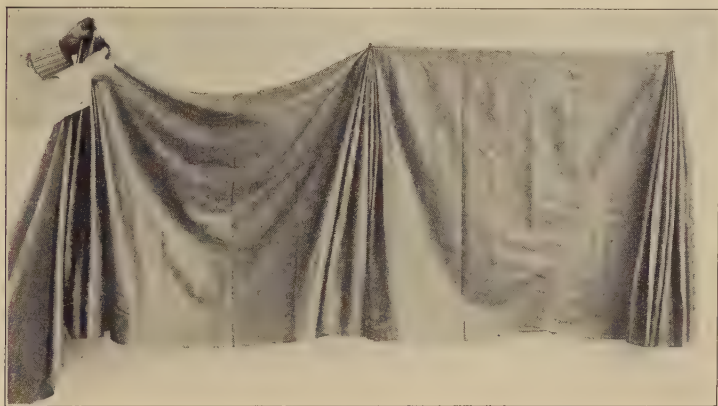


FIG. 3

plaits are formed and fastened in their proper places. Next, beginning at the lower selvage of the goods and exactly midway between the vertical plaits, as shown in Fig. 4, the material is laid into longitudinal plaits all the way up to the top selvage *a* and fastened. When all the material between the vertical plaits is treated in this way, the fan festoon will be complete except for the finish of bows of ribbon, etc. that may be applied.

3. Of course, in making fan festoons, or any other style of festoon for that matter, it is not always necessary to arrange the material along a straight top line. The points of fastening

may be alternately high and low; or every other one may be made to jut out by fastening projecting sticks or arms to the



FIG. 4

background, to the outer ends of which the plaits may be attached. By following these different plans the effect may be greatly varied and the stiffness of contour relieved.

TURNED FESTOON

4. The **turned festoon** is suitable only for places in which narrow draperies are required, because in making them

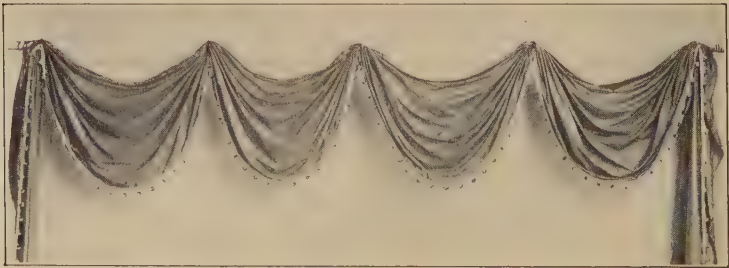


FIG. 5

the material must be twisted, which operation makes the material appear narrower than it really is. Fig. 5 will serve

to give a good idea of the appearance of a turned festoon made of single-width, yard-wide goods and finished with ball fringe.

5. Turned festoons are easily made. As in making fan festoons, the line on which the turned festoon is to be formed is marked off into equal spaces. The work of festooning is begun as shown in Fig. 6. The corner *a* of the material is pinned temporarily at the first mark on the line, and, as shown at *b*, the top selvage, about a foot from the end, is held with the left hand. Beginning at the lower corner, as shown in Fig. 7, the material is then gathered into plaits with the right hand, following a diagonal line to the point *b*, as shown in Fig. 8. The bunch of plaits thus formed is permanently fastened at the first mark on the line, the surplus corner goods from *a* to *b* being turned under, out of sight, so that the first fastening will appear as in Fig. 9. The material is then brought to the second mark on the line, and the amount of sag, or



FIG. 6

drop, for the top fold is determined. In actual work, this can be done by using a hammer as a gauge between the line of the festooning and the goods, as shown in the illustration, although other methods may be followed, as will be seen in the formation of other styles of festoons. The main object in any event is to have the amount of sag for all drapes of the festoon uniform.

After the sag, or drop, is determined, the material is fastened temporarily, as shown at *a*, Fig. 10, and, as in the beginning,



FIG. 7



FIG. 8

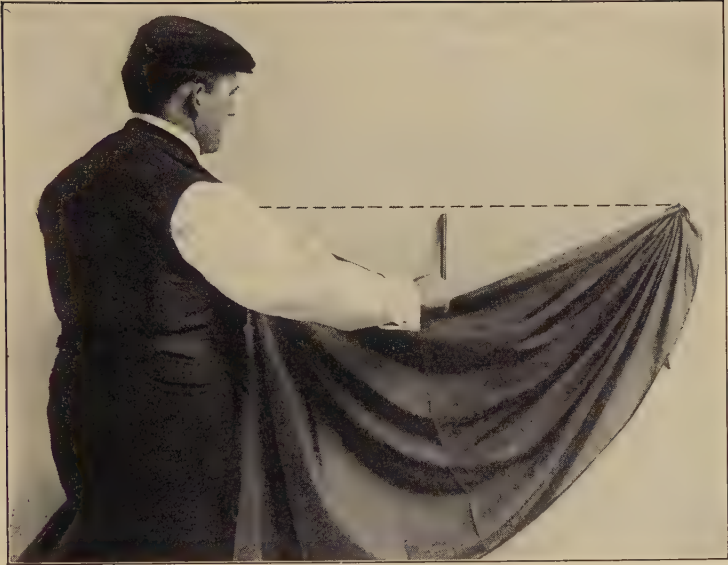


FIG. 9

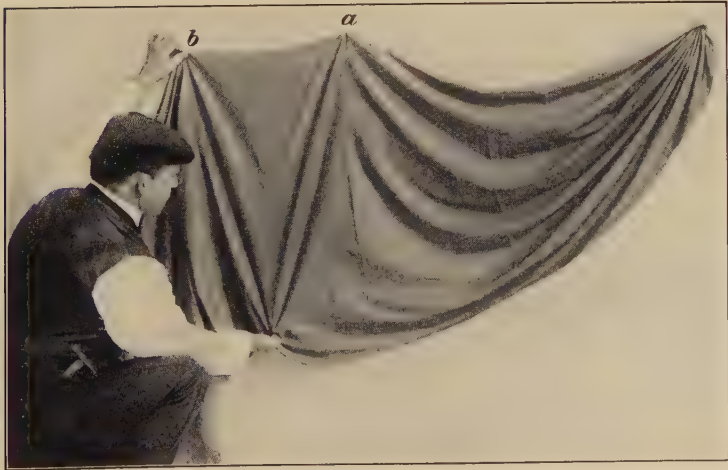


FIG. 10

the material is grasped about a foot farther along, as shown at *b*. It is then plaited from the bottom, but instead of working



FIG. 11

toward the left hand, as in Fig. 8, the plaits are gathered along a diagonal line leading to the temporary fastening *a*. Plaiting



FIG. 12

is done in this way because the folds for the first festoon must shorten toward the top. When the plaits are laid in this

manner, they will appear as in Fig. 11, but after fastening them they must receive a half twist, so as to turn downwards the fullness that gives the increasing lengths to the folds of the second festoon. By twisting the goods in this way, the top selvage becomes the bottom one, and vice versa, as indicated by the reversal in progress in Fig. 12. The selvage held in the left hand is dropped and the one in the right hand now becomes the top one for the second festoon, which is made up in the same manner as before and appears as shown in Fig. 13, which also illustrates the twist that again reverses the position of the selvages for the next, or third, festoon. This process of plait-

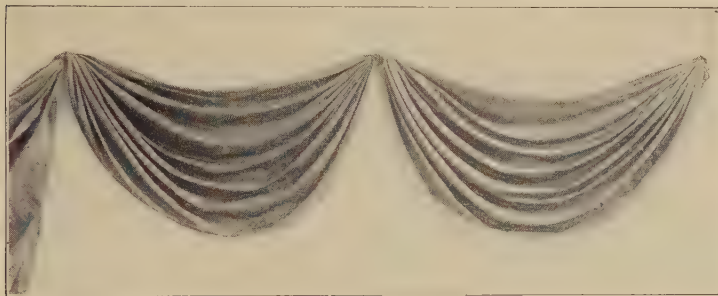


FIG. 13

ing, twisting, and fastening the material is continued until the desired space is filled, after which the finishing materials are applied.

6. The ball-fringe edging used on the turned festoon shown in Fig. 5 is pinned or stitched along the bottom edge of the material after it has been festooned because of the reversing of the selvages for the different drapes. However, in other styles of festooning, fringes, and cords may be sewed to one selvage of the material before it is made up. At the fastening, and where rosettes are used, the festoon just described is often ornamented with ribbon bows and sometimes with rosettes separately made up; also, with bunches of flowers, with smilax tabs and connecting drapes of smilax following the folds of the festoons.

WHEEL-ROSETTE FESTOON

7. The **wheel-rosette festoon** differs from the festoons thus far described in that ornamental rosettes are formed of the material itself, simultaneously with the festoon formation. To form a good idea of a wheel-rosette festoon, reference should be made to Fig. 14.

8. The way in which a festoon of this kind is made is illustrated in Figs. 15 to 22. First, the selvage of the material, about a foot from one end of the goods, is grasped by the left hand, as shown at *a*, Fig. 15. Then, beginning about a foot

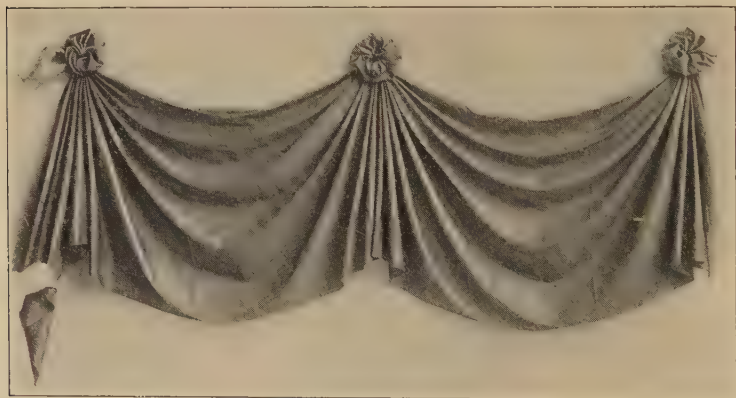


FIG. 14

farther along the selvage, as at *b*, the material is plaited with the right hand, the plaits being laid across to the corner of the goods *c*. In forming these plaits, care must be taken to draw them gently downwards, so that they will be fairly taut and straight between the hands. When the plaits are thus formed they are pinned or tied together and fastened at the end of the line from which the festoons are to hang.

The next step consists in determining the sag, or drop, of the festoon from the line. This may be done in the manner described in Art. 5 or as suggested in Fig. 16. This illustration shows the space marked off into squares representing 1 square

foot each. For practice work, a good scheme will be to nail a long strip of $\frac{7}{8}$ -inch wood about 2 inches wide to a partition, and then line off the background and strip into 1-foot squares with chalk. These squares will simplify the work considerably, and will assist the beginner in becoming proficient in judging the distances to be followed in forming this style of festoon as well as other styles. On referring to Fig. 16, it will be seen



FIG. 15

that the points at which the rosettes should appear are 3 feet apart and that the sag is about one-half of a square, or 6 inches.

After the amount of sag and the distance apart of the rosettes have been determined, the selvage of the material about a foot from the point *a* is grasped by the left hand, as shown at *b*, Fig. 17. Then, starting at a point 1 foot farther from the point *b*, as at *c*, Fig. 18, the material is laid into cross-plaits

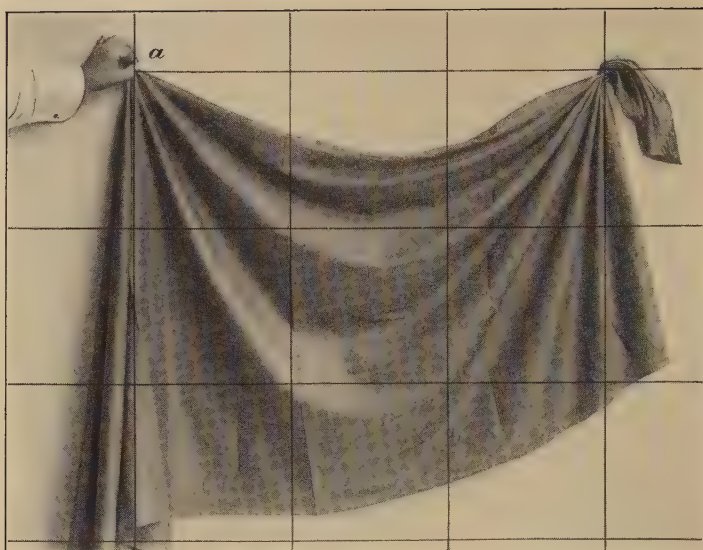


FIG. 16



FIG. 17



FIG. 18



FIG. 19

up to the point *a*. When plaited all the way across, the work should appear as shown in Fig. 19. The plaits held in the right hand, as at *a*, are then secured by tying them together, after which they are fastened in place on the festooning line. The remainder of the drapes required are made in the same way as those just described, when the material is ready for forming the rosettes.

The rosettes are easily formed. The end of the goods above the plaits, as *b*, Fig. 19, is first brought back and down and then

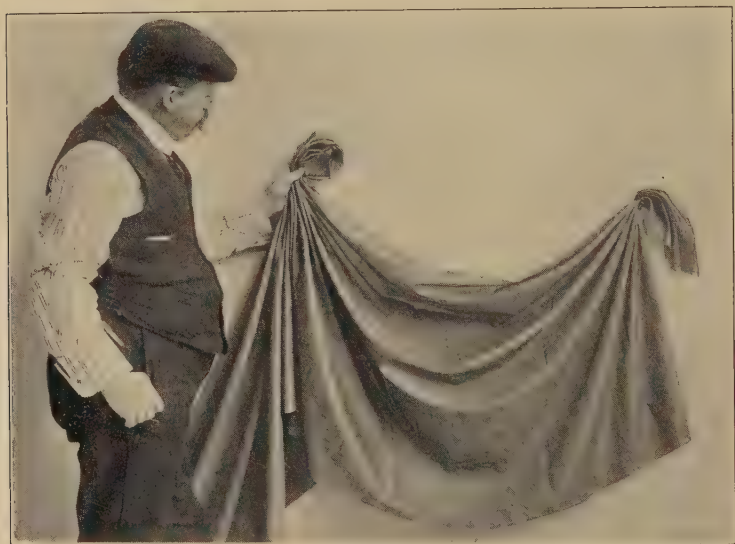


FIG. 20

pushed under the loop of the string used to fasten the plaits together, so as to form a rosette loop, as shown in Fig. 20. Next, the selvage of the material contained in the rosette formation is opened out, as shown in Fig. 21, and brought around in a circle and pinned together, as in Fig. 22, thus forming a complete wheel rosette.

Because of the handling necessary, the hang of the loops and the formation of the rosettes will be produced with more or less irregularity. This irregularity must be gently touched

out until the loops appear in regular, even folds and the rosettes are neat and round, as illustrated in Fig. 14. As will be observed,

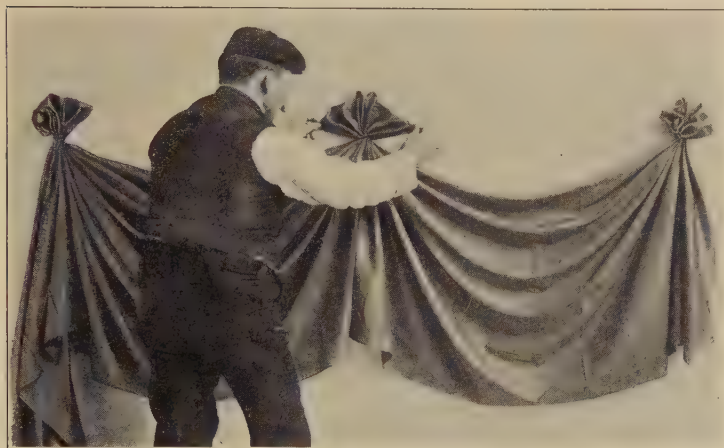


FIG. 21

Fig. 22 is also marked off into squares, thus showing the distance of all points from one another. The distance between the



FIG. 22

rosettes is 3 feet; the drop, or sag, of the material from the top line, about 6 inches; and the depth of the drape, about $2\frac{1}{2}$ feet.

TURBAN-ROSETTE FESTOON

9. The **turban-rosette festoon**, an example of which is shown in Fig. 23, is perhaps less familiarly known than some of the styles of festoon already mentioned. It is equally well adapted for all widths of drapery, whereas most all other styles are suitable for only narrow- or single-width material. So far as instruction and study are concerned, however, turban-rosette festoons are the most complicated; nevertheless, when the method of making them is once mastered, several widths

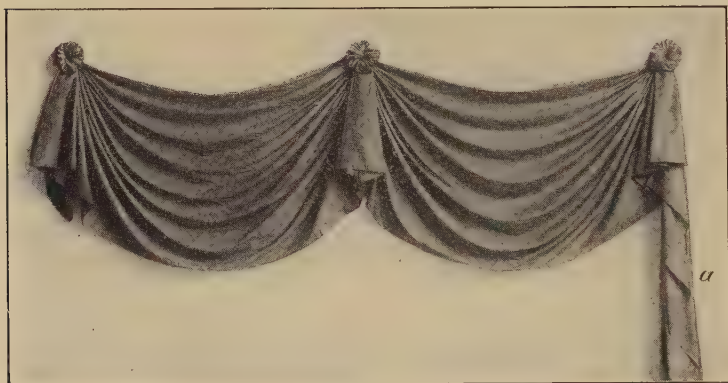


FIG. 23

of material can be made into graceful festoons with as much ease as a single width can by the same or some other method. For this reason, and because of the fact that turban-rosette festoons are best suited for general use, the beginner should not be satisfied until he can make this style of festoon as readily as he can any other style.

10. Before attempting to make turban-rosette festoons, it is necessary to ascertain the length of drapery, or material, required for a given space. First, the line to be festooned is divided into a number of equal spaces so as to find out how many rosettes are to be made, a rosette being required for each dividing point and one for each end. Next, the quantity of goods to be allowed for the formation of each rosette, known

as the *rosette allowance*, is decided on. With this information, the length of the drapery required to festoon the space is found by multiplying the quantity of goods needed for each rosette by the number of rosettes that are to be made and adding this result to the length of the space. Of course, if it is intended to have hanging tabs at the ends or to have the top edges of the festoons to drape, or sag, instead of following a straight line, the extra lengths required for such purposes must be added. As a rule, the length of material required for forming turban-rosette festoons is about two and one-half to three times the length of the space to be decorated. After having determined the length of material needed, the number of widths to be used in the festoon formation are cut accordingly and then sewed together along the selvages, when the material is ready for making the festoons.



FIG. 24

11. The principal work in making festoons of this style consists in forming the rosettes, which operation also forms the drapes between the festoons, as will be seen. The making of a turban rosette is begun by measuring the rosette allowance. If, as in this case, the allowance is to be 2 feet, the goods may be measured in the manner shown in Fig. 24; that is, by holding the material in the fingers as shown at *a* and drawing it up to the shoulder tip *b*, which, as a rule, is a distance of about 2 feet. This method of measuring is the one usually followed in regular work. Other measurements can be made in much the same way. Thus, from the end of the outstretched fingers to the tip of the nose or the chin held at a certain angle is usually 1 yard; from the end of the thumb to the end of the index

finger, both outstretched, 6 inches; and so on. Such standards of measurement will be found to afford considerable saving of time in measuring goods for festoon formation.

After the rosette allowance is measured, it is folded as shown in Fig. 25 and then fastened up at some convenient point or handed to an assistant, who holds it in the manner shown in Fig. 26. It is next laid into bias plaits, which may be started from any point along the folded edge of the rosette allowance,



FIG. 25

depending on the depth of festoon desired. For general purposes, the start is made about midway, as shown at *a* in the illustration. Varying the start toward the top widens the festoon, and toward the bottom narrows it. This varying of the start also affects the folds of the festoons; approaching the bottom makes them thicker and closer together, and approaching the top correspondingly shallows and thins them out. When particularly close, full

foldings are desired, the start is made all the way down, in which case experience teaches that it is best to increase the rosette allowance; otherwise, the festoons would be too narrow and scant for a good effect. The average rosette allowance is 2 feet for yard-wide material, such as is used in the illustrations, and a foot extra for each additional width. When other widths are used, the allowance for rosettes should be proportional.

The bias plaiting is begun by forming the folded edge of the rosette allowance into a box plait, as illustrated in Fig. 27,

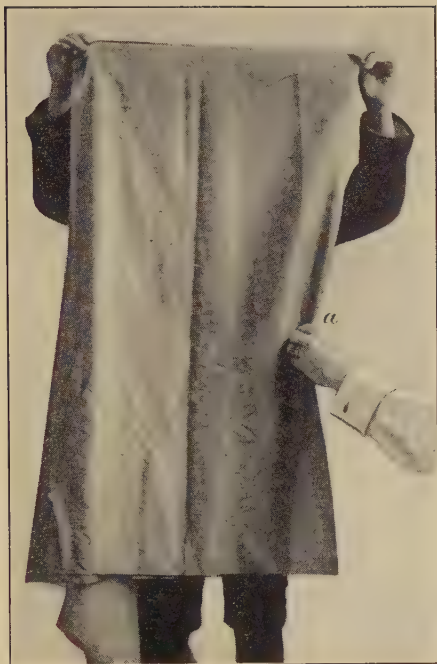


FIG. 26

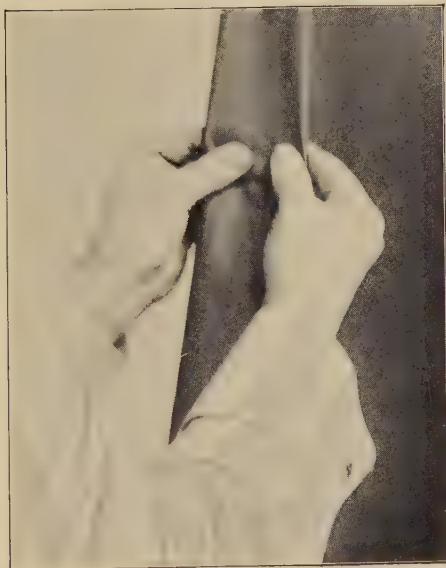


FIG. 27



FIG. 28



FIG. 29

after which the rest of the material is taken up into ordinary side plaits behind the box plait by pushing the goods back and forth over the ends of the fingers and following a direct line between the starting point *a*, Fig. 26, and the opposite holding hand of the assistant. The plaiting is continued with both hands, as shown in Fig. 28, diagonally upwards to the corner *a*, when the mass of plaits is taken from the assistant and held in the manner shown in Fig. 29.

The next step consists in tying the plaits together. With the



FIG. 30

plaits held by the trimmer in the manner shown in Fig. 30, the assistant lays a piece of twine across the bunch; then, as shown in Fig. 31, the trimmer turns the material for the rosette back toward himself and holds it while the assistant ties the plaits. They should be tied tightly in order to prevent any change in their arrangement by subsequent handling; however, before tying them, it is advisable to insert a piece of cardboard the width of the plaits between the goods. If this is

done, the plaits will not be pulled out of shape by tying them together tightly.

After tying the plaits in this manner, a second knot is tied about an inch from the first one, so as to form a loop in the twine, by which the drapery should be handled. These loops, as will be readily seen, are used to suspend the festoons, when formed, from tacks or nails driven at proper points along the line from which the drapery is to hang.



FIG. 31

With the plaits thus tied, the assistant holds them by the loop in the manner shown in Fig. 32 and the trimmer proceeds to form the rosette. First, as shown in this illustration, the sides of the rosette material are drawn apart down close to where the plaits are tied, so as to make a center about which to form the rosette. Next, as shown in Fig. 33, the material is rolled under in an even-sided but crinkled roll, care being

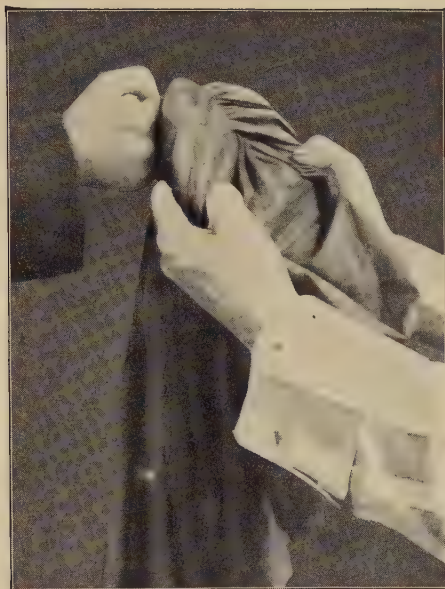


FIG. 32



FIG. 33

taken in rolling to keep the crinkles as evenly distributed as possible. In this condition, the formation is semicircular. It is next formed into a complete circular effect by drawing the ends together as in Fig. 34 and securing them by passing the end shown at the thumb of the left hand, Fig. 35, into the loop made by rolling the goods. The upper loop should be drawn well over and around the inserted end, so as to make it perfectly secure. Finally, any extra fullness is tucked under and rounded out, as indicated in Fig. 36, when a neat turban-



FIG. 34

shaped rosette, as shown in Fig. 37, results. A rosette of this kind is varied in size to suit individual taste according as the material composing it is rolled under tightly or loosely, a loose roll making a large rosette and a tight roll a small one. In either case, the process is identical.

12. The turban-rosette festoon, as already inferred, is completed by repeating the preceding process at

regular intervals along one edge of the drapery material—that is, as often as points for rosettes are indicated along the line to be festooned—and then suspending the material from tacks or nails by means of the loops formed in the string used to tie the plaits together. This style of drapery may be made up with a straight top line between the rosettes; but the best results are obtained by allowing the goods to sag from 3 to 8 inches, depending on the size of the space that is to be covered.

Attention is called to the box-plait-shaped tab of graduated width beneath each rosette in order to emphasize the reason



FIG. 35



FIG. 36



FIG. 37

for starting the bias plaiting with a box plait, as previously instructed. If the plaiting were started in any other way, the fulness beneath the rosettes would hang in irregular, shapeless, and inelegant form.

An end tab of the kind previously mentioned is shown at *a*, Fig. 23. If such long tabs are desired at the ends of the festoon, the first rosette of the festoon is made a yard, or several yards, as the case may require, from the end of the material, and the goods allowed to extend a similar distance beyond the last rosette.

After a little practice, the beginner should be able to make turban-rosette festoons without an assistant, fastening the loop of string usually held by the assistant in forming the rosettes to a support of some kind.

INTERTWINED FESTOON

13. The **intertwined festoon** is not a distinct style of festoon; it is, rather, a design for the application of all other festooning methods except the fan festoon, which does not lend itself readily to intertwining. Owing to the appearance of an intertwined festoon, the name *chain draping* is commonly

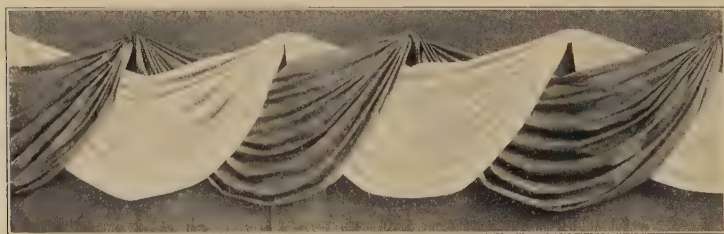


FIG. 38

applied to it. As a rule, two pieces of material of contrasting colors are employed in arranging intertwined-festoon designs, although effects equally as good are produced by using two draperies of the same or harmonizing colors. Three colors are sometimes used, as, for instance, when displaying national or society colors. In such cases, however, one color of goods



FIG. 39



FIG. 40

is simply hung so as to form a background for the other two colors of goods, which are of course chain-draped.

14. An example of an intertwined festoon in which the national colors—red, white, and blue—are employed is shown in Fig. 38. The drapes in this design consist simply of turned festoons, which really afford the best effect when treated in this manner. Before the festoons are made, the blue material is tacked in place along the line to be festooned so as to form a background. The festoons are then begun in the manner shown in Fig. 39; that is, by plaiting and fastening up the ends of both pieces—the white and the red—a short distance below the edge of the blue material, as shown at *a* and *b*. The festoons are then made up and intertwined as the work proceeds, as indicated in Fig. 40, until the desired space is covered. After this the folds are touched up, as in making other styles of festoons, so as to secure the regularity and evenness of fold shown in the finished example, Fig. 38.



FIG. 41

TABS FOR FESTOONS

15. For festoons and other styles of draping, tabs other than those produced in the making of such decorations are often required to help out or to add to the effect. An example of a tab commonly used for this purpose is shown in Fig. 41. A tab of this kind is made from a square of the material used in forming the festoon or other drapery, the size of the square piece depending, of course, on the size of the tab that is required. A tab that is to be 1 foot long requires a piece of material 1 foot square; one that is to be 2 feet long, 2 feet square; and

so on. This square piece of material is folded in half diagonally, as shown in Fig. 42. It is then laid into even plaits from one end of the creased, or folded, edge *a* to the double corners *b*, as indicated in Fig. 43. When all the plaits are laid, they are secured by pinning them together, when the tab should appear as shown in Fig. 41.

16. If a tab effect is desired on wheel-rosette festoons, a tab made up in the manner just explained is pinned under each rosette.

Such tabs also add materially to the effect of twisted festoons, in which case the top end of each tab is pinned under the turn of the material, unless a bow of ribbon or a separate rosette is to be used to finish the effect, when it may be pinned on top.



FIG. 43



FIG. 42

Double-tab effects of the kind shown in Fig. 41 are obtained by cutting lengths of the material just twice the size of the square pieces required for the single tabs. Both corners of one side are then folded up to the middle of the other, and then the latter is plaited, as shown in Fig. 43, but to the middle only from each end.

The meeting of the plaited sides at the middle line produces the same effect as if two of the tabs shown in Fig. 41 were placed side by side.

APPLICATION OF FESTOONS

GENERAL INFORMATION

17. As was mentioned previously, the greatest use for festooning lies in the decoration of exteriors and interiors of stores and public buildings. Although festoons of bunting and similar materials can be used alone in forming such decorations, better results are always obtained if flags, banners, pennants, shields, strings of electric lights, and similar devices are employed in conjunction with them. In order that a clear idea of the application of festoons and related decorative materials and devices may be formed, several illustrations of decorated exteriors and interiors are given here; also, in connection with the description of these decorations are explained some of the practical methods employed by trimmers and decorators in performing such work.

18. In regard to the construction of flag-and-shield units to be employed in conjunction with festooning, it may be well to mention that sockets are usually arranged on the back of the shield to receive and hold the flagstuffs in proper position. It is then simply necessary to drape the flags, which is done by laying the lower edge of the flag in plaits, to bring it to the desired form, and then pinning or tacking the bunch of plaits to the staff. Sometimes, however, in the case of large flags with heavy staffs, the groups are arranged first by screwing regular metal flag holders to the background, to hold the flags properly bunched, after which the shield is hung in the middle so as to complete the unit and conceal the flag fastenings.

Flags and shields of all nations ready for use can be purchased from manufacturers or from supply houses. The trimmer, however, should not find it difficult to make shields for emergencies or for temporary use. A shield can be made by cutting the desired shape out of thin lumber, covering this shape with sheeting or canvas, and then painting the proper design and colorings on the covering material, using a sample

copy to get it correct. The sockets for flags are made by tacking tin bent in the desired shape on the back of the shield, or simply by using large screw eyes.

EXAMPLES OF EXTERIOR DECORATIONS

19. Fig. 44 shows the exterior of a large store building tastefully decorated with festoons of bunting, flags, and shields, strings of electric lights, etc., in honor of an event of national importance. These decorations, as will be observed, are arranged in a systematic manner around a large central feature, and are well worth a careful study.

Elaborate decorations of this kind are always put up according to prearranged plans. It is customary, in such cases, to make a rough drawing of the building on a scale of $\frac{1}{2}$ or 1 inch to the foot or to secure a blueprint of the building from the architect of the building and then mark or sketch in the various flags and shields, the festooning, and the other decorative features. This drawing serves as a guide in putting up the decorations, and from it can be readily ascertained the required number of articles as well as the quantity of material needed for festooning. Thus, the quantity of material for festooning is determined by counting the rosettes that are to be used and then computing the material as previously explained; the number of flags required can be learned by counting the number of shields that are needed and then multiplying this number by the number of flags to a shield; and so on.

All the necessary materials for the decorations are collected before the actual work of putting them up is begun, the lengths of festoons being made up and fastened to long strips of wood, so that they can simply be pushed out of the windows of the buildings and suspended quickly. These strips are painted the same color as the building, and are fastened in place by means of wires attached to window sills. Hanging festoons are prevented from being blown out of shape by the wind by fastening a wire or a cord to the window above a festoon and then bringing it down and fastening it to the window below. Shields and small flags are usually fastened by wires.

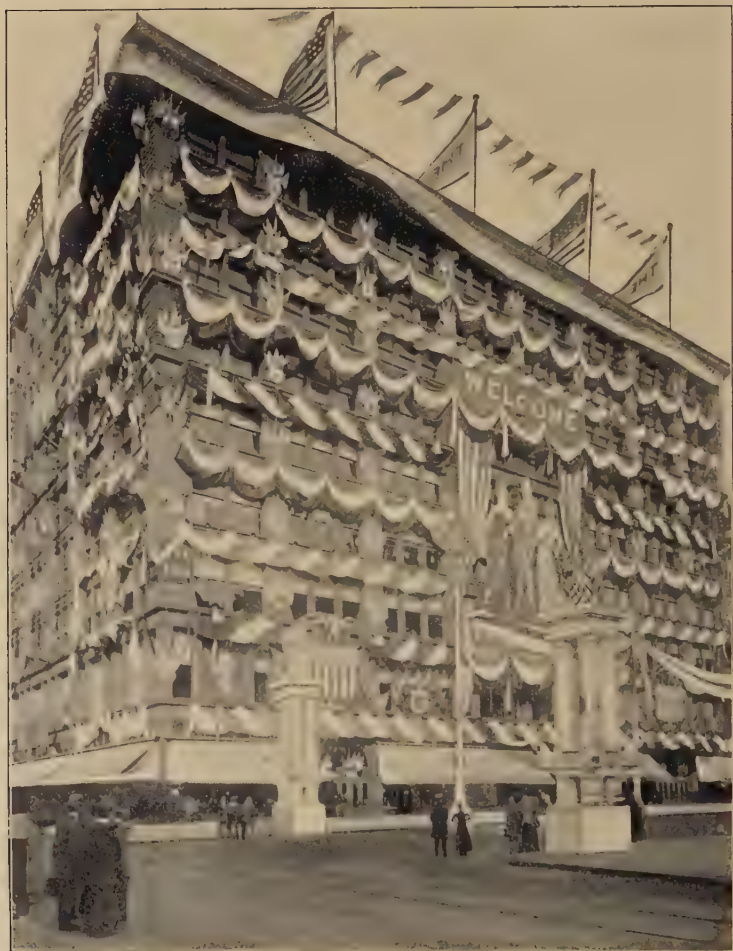
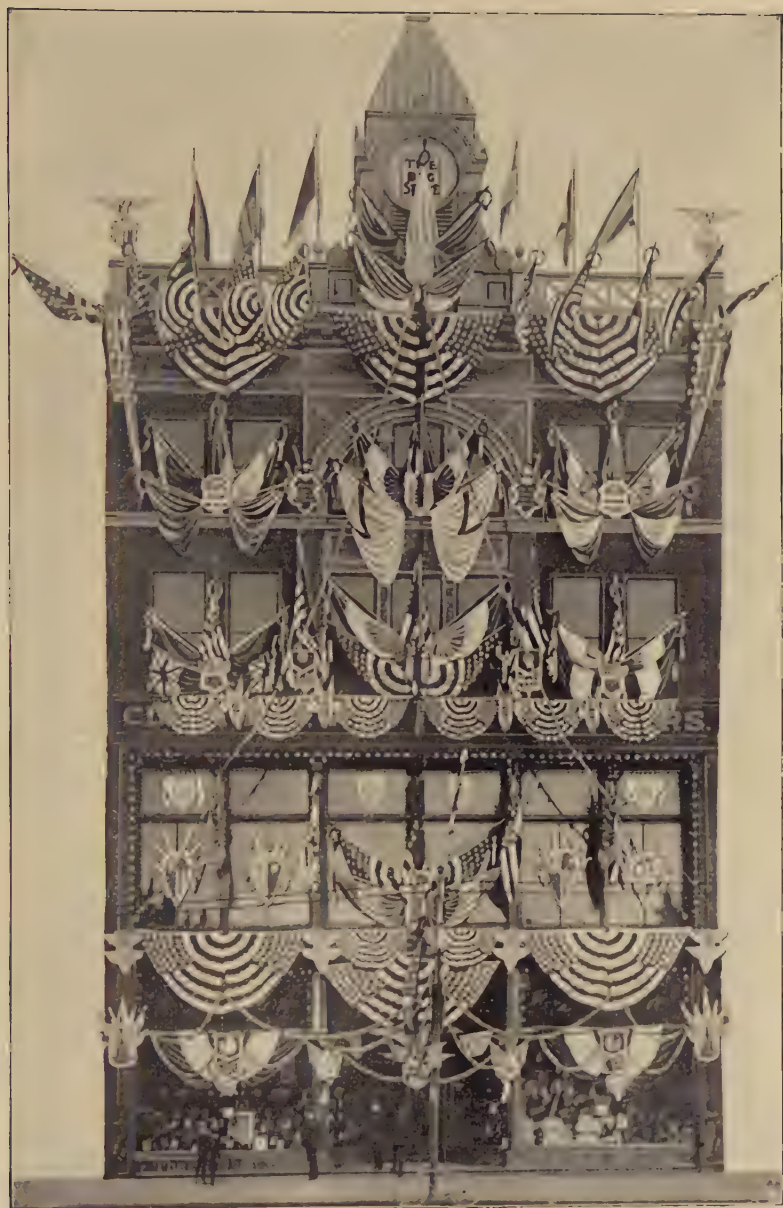


FIG. 44



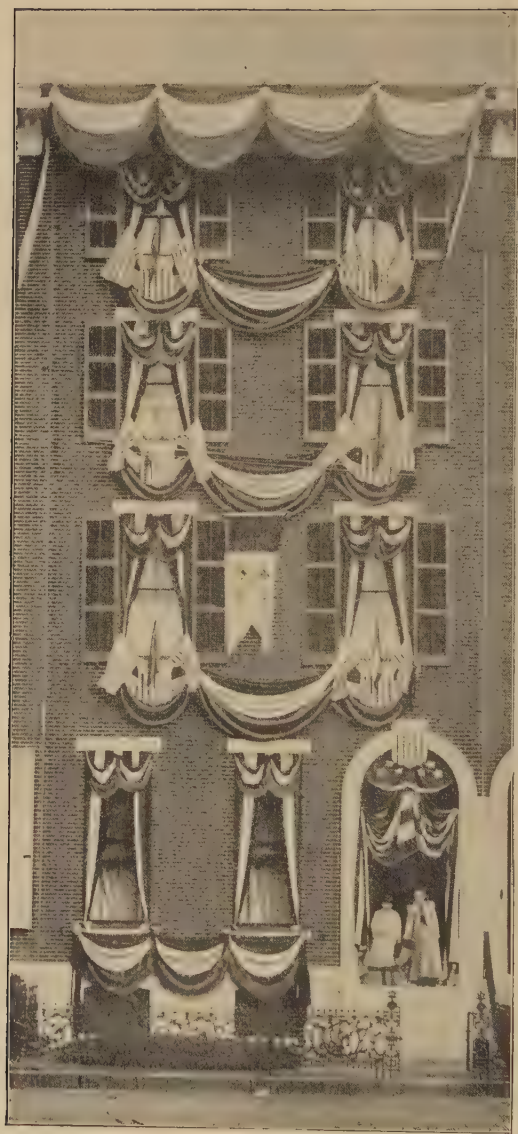


FIG. 46



FIG. 47

Wire is used for fastening decorative materials whenever possible, but care must always be taken not to injure the woodwork of the building unnecessarily. Strings of electric lights are usually put up by electricians, under the direction of the trimmer or decorator.

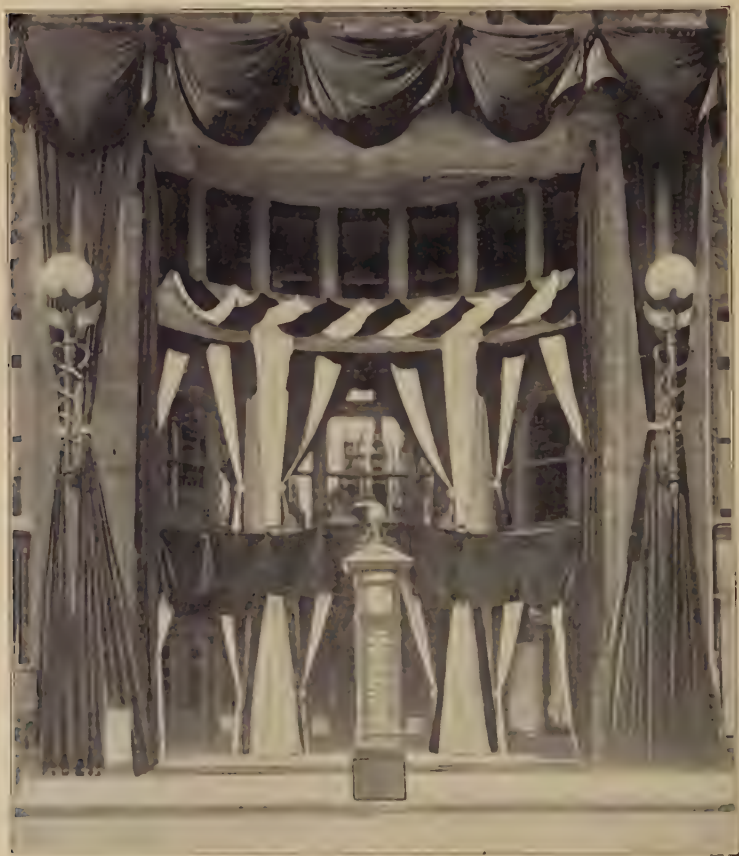


FIG. 48

20. Another excellent exterior decoration is shown in Fig. 45. With the exception of the festoons of electric lights, this decoration consists entirely of flags and shields. The arrangement of these materials is graceful and merits a close study. Each of the fan-shaped festoons, which are not difficult

to make, consists of two flags. The lower selvage of each flag is laid into plaits and then tied. The plaited ends of both flags are then fastened at a point that is to be the center of the festoon, and the outside edges are brought up, one to the right and the other to the left, forming fans with the fields of blue toward the outside.

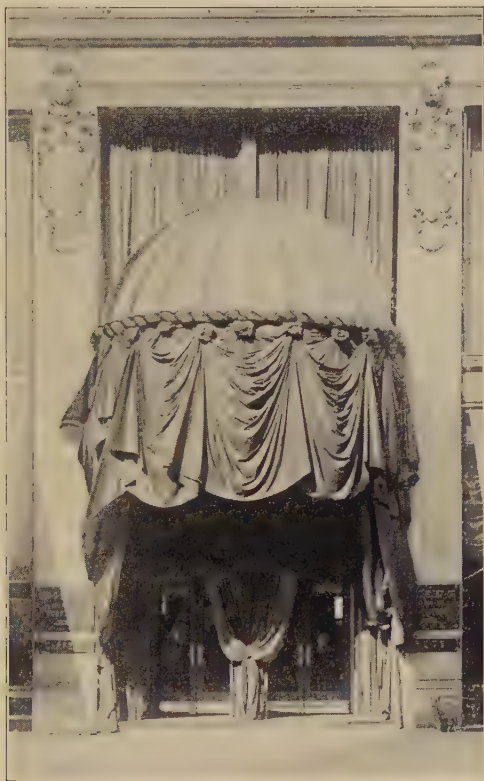


FIG. 49

21. In Fig. 46 is shown the front of a private city dwelling trimmed with festoons of bunting, a banner, and several shields and flags. The arrangement of these decorative materials is very simple, nevertheless it is effective. From this illustration the beginner should be able to form a good idea of the manner in which the exteriors of such buildings are decorated.

22. Central Arrangements for Exterior Decorations.

In Figs. 47, 48, and 49 are shown three excellent central arrangements, such as are often employed in the decoration of large store exteriors. These central features consist mostly of draped and festooned material, and while the originals of these examples were used as memorial drapes, the designs will be found good ones to follow in decorating with brighter materials. It may be well to remark here, however, that white and purple, black and white, or black and lavender make good colors for memorial drapes.

In Fig. 47, the material is made up into fan festoons and artistically arranged, the points of fastening of the festoons being concealed by means of shields that support draped flags.

In Fig. 48, the material is festooned across the top of the entrance doorway and draped in curtain and portière effect on the windows and doors.

In Fig. 49 the material is festooned and draped from an oval-shaped canopy projecting outwards from the building, and at the sides and over the doors are hung heavy draperies.

EXAMPLES OF INTERIOR DECORATIONS

23. In Figs. 50 and 51 are shown two excellent examples of decorated interiors that will serve to bring out further the uses that can be made of festooning. As in trimming the exteriors of buildings, the style of decorations to be put up in interiors, as well as the material required for their formation, is always ascertained first in order that everything needed may be assembled beforehand and no delay caused in the actual work of putting up the decorations.

Fig. 50 illustrates the interior of a large armory. The decorations consist mostly of festoons of bunting, which are strung around the sides and on the steel arches. Between these draped arches hang pennants, and in regular order around the room are placed draped flags and shields and flags; also, at the rear of the room is a large central arrangement of draped flags, and in addition to all these decorative materials use is made of potted palms and other plants. A close study



FIG. 50

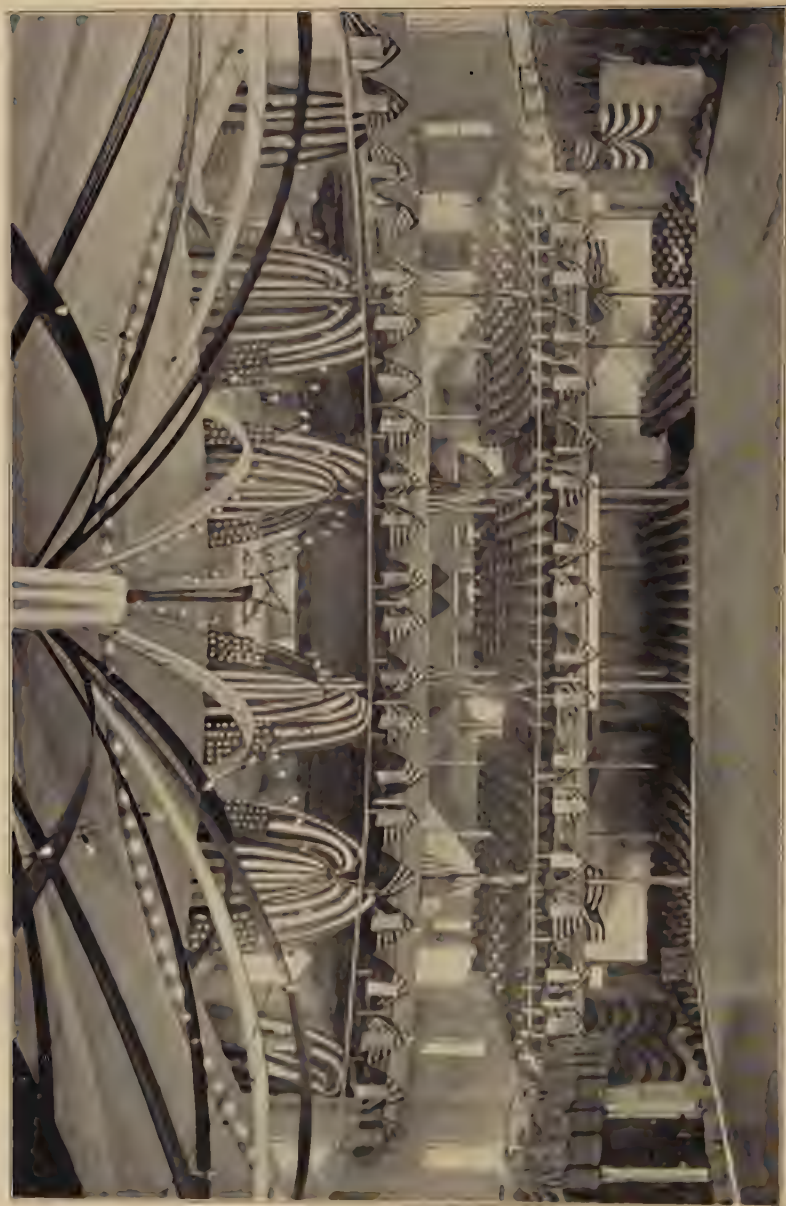


FIG. 51

of these decorations will reveal many ideas that should be of great help to the trimmer in decorating similar interiors.

Fig. 51 shows the interior of a theater as viewed from its stage. For these decorations considerable use is made of draped flags. The principal feature, however, consists of large streamers that radiate from a central point to different parts of the interior. In addition to these decorations, use is made of several strings of electric lights and a large star outlined with electric bulbs. Designs of various kinds outlined with electric lights or made up entirely of electric lights, as well as strings of electric bulbs, can always be used to advantage in such decorations, whether they are made in interiors or on exteriors of buildings.

DECORATIVE DISPLAY AND EQUIPMENT

(PART 7)

SCENE PAINTING

REMARKS

1. Although the painting of scenery may not seem to be a part of the window trimmer's work, there are times when he has to resort to painted panels and backgrounds in order to make effective decorations, displays, and window settings. In such cases, either because the trimmer cannot spare the time or because he does not possess the ability to paint scenery, it is necessary to have such work done by a regular scene painter employed at some theater. Aside from lack of time, however, there is no reason why a window trimmer with a fairly good eye for color should not be able to do this work himself, provided he does not undertake to paint a scene that may be beyond the ability of a finished artist. Of course, there are some trimmers who can make excellent merchandise displays but fall short when it comes to painting panels and backgrounds; nevertheless, any trimmer, provided he will follow the ideas set forth in this Section and practice faithfully, should be able to learn how to paint scenes of the simple kind.

2. Before a trimmer attempts to paint scenery he should possess a fairly good knowledge of colors and their combinations, so that he will be able to mix paints as well as to harmonize and blend colors. Next in importance to a knowledge

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of colors is the ability to select a scene to reproduce on canvas. Landscapes will be found most suitable for show-window work. Therefore, it will be well to study the beautiful color effects in nature and to learn how to sketch them roughly. Studies in color that cover every conceivable subject can be purchased from dealers in artists' supplies, and excellent studies are often found in magazines and other printed matter. Care should always be taken in picking out studies of this kind to select only those which are simple and strong and have a color scheme that is not too complicated. The cause of most failures on the part of amateur artists is that they undertake to paint scenes that are too difficult. It is always much better for the beginner to use studies that do not have to be altered. When he undertakes to make changes or to vary from original studies in reproducing them on canvas, he will encounter difficulties and his reproductions will invariably be failures.

Studies for reproduction on canvas, whether sketched from nature, purchased from dealers, or culled from printed matter, should be preserved until they are needed. An ordinary letter file makes a good receptacle for them, because in it they can be arranged in alphabetical order according to the subjects they represent.

3. The work of reproducing a study on canvas is not so difficult as might be expected. It involves several details, such as preparing the canvas, marking both the study and the canvas into squares, sketching the subject on the canvas, and finally applying the colors. These various steps and other details of minor importance, as well as a study of colors and the methods of sketching from nature, are taken up in their proper order. If all this matter is carefully studied, and, as said before, plenty of time is given to practice, the work of painting scenery for almost any purpose, but especially for show windows, should be found rather simple.

COLORS AND THEIR COMBINATION

THEORY OF COLOR

4. The practical application of the theory of color has not kept pace with many of the other branches of art and industry. This is not because its study has not been assiduously and successfully followed by scientists, but because those of their investigations which have been made available for the artisan are looked upon as being of doubtful value for practical purposes. It is a common idea that the faculty of so combining colors as to produce artistic results is less a question of science than of a certain inborn taste, and that unless a person possesses this peculiar gift it is of little use for him to attempt any color combinations.

That certain persons possess a decided taste for color, or, as it is ordinarily called, "an eye for color," is beyond question. Parallel cases are found in the field of music, where certain individuals have a most pronounced gift for placing chords and memorizing melodies. But a lack of these particular talents in either field will not prevent an otherwise normally developed person from gaining very satisfactory results. Indeed, a study of color systematically carried out will benefit any one by enabling him to appreciate good color effects and teaching him how to secure them.

There has been much guesswork and arbitrariness in deciding what constitutes proper color combinations, because until recently there was no generally accepted foundation on which to build and base the theory of color. It has been a field that belonged exclusively to the artist, and has therefore been more or less subject to individual taste and fancy. The results were that no two theories agreed in all particulars. It was after men like Brewster, Helmholtz, Young, and Maxwell brought order out of all this chaos that a rational development of the color theory could begin. It is therefore unnecessary to pay attention to pet theories, for enough material has been scientifically obtained with which to build

a rational theory of color that will satisfy all demands for accuracy and good taste.

5. The general supposition is that color is a property that is inseparable from the substance of the objects in which it is observed; that, for instance, when an object appears green, such green color is absolutely inseparable from it and will remain unchanged under any and all conditions. A closer study will show, to the contrary, that the color displayed by an object depends entirely on the nature of the light it receives and on its surroundings. As has been scientifically ascertained, colors are in reality elements of white light and not at all attributes of matter, as has been supposed; that is to say, objects have no color of their own, but have simply the power to decompose, absorb, and reflect the colored rays of light. Thus, an object is red because it decomposes the white light falling on it and absorbs all the colored rays except the red ones, which it reflects; these being perceived by the eye, the object appears red. What causes an object to absorb certain colored rays and to reflect others is not yet known. A white substance reflects the majority of the rays of light it receives, and a black one absorbs them to a great extent. The latter would, in fact, absorb them all, if certain properties of its surface did not enable it to reflect white light. As instances of this kind, note black silk when woven into fabrics such as satin or velvet.

CLASSIFICATION OF COLORS

6. **The Spectrum.**—What is ordinarily termed the **spectrum** in connection with color work refers to the solar spectrum; that is, the spectrum obtained from a ray of sunlight. In reality, the solar spectrum is a continuous horizontal band of light, consisting of short vertical bars of the different colors, that results when a ray of sunlight is allowed to pass through a glass prism. In such a band of light, or spectrum, there are six distinct colors noticeable; namely, red, orange, yellow, green, blue, and violet (or purple). From this, it has become common to call any collection of these six colors, whether of colored lights or of colored pigments, *the spectrum*.

7. Primary Colors.—Conclusions as to what are the **primary colors** of the spectrum have been repeatedly altered with the progress of scientific investigation. Newton called the entire six colors primaries. Later, Brewster performed experiments from which he concluded that red, yellow, and blue were the primaries. Then Maxwell announced that the primaries are red, green, and blue, from direct examination of the rays. The most recent investigation results in the conclusion that red, green, and violet are the simple, or primary, colors, for the reason that none of these colors can be resolved into any other colors. The preceding conception of the primary colors, it must be remembered, refers to colored *lights*. In the popular conception, and as applied to colored *pigments* (with which the trimmer must work in painting scenery), the primary colors are *red*, *yellow*, and *blue*, because pigments of these three colors, in combinations of various proportions, will produce every other color of the spectrum.

8. Secondary Colors.—The **secondary colors** are the colors derived directly from the mixing of two primary colors. This is clearly shown in Fig. 1, in which three circular disks, each of which represents a primary color, are printed so as to overlap partly. It will be observed that where the blue overlaps the yellow, a green is the result; red with yellow gives orange, and red with blue, violet (or purple). Where all overlap in the center, something in the nature of a black is produced. This is not according to the theory of color, from which a person is led to believe that a white or grayish white would be the result. But it must be remembered that the facilities for reproducing colored light by means of pigments are limited. The latter have a certain density that must be reckoned with and that is increased by superimposing one layer on another, as in the present instance. The result is that practically all the rays are absorbed instead of being reflected, in which case they would approximate a white. It is beyond the scope of this Section to enter into further details, but it may be added that the apparent contradiction between this phenomenon and the theory of light is in reality a proof of its truth.

9. Tertiary Colors.—A mixture of two secondary colors gives what is termed a **tertiary color**, or one composed of four primaries. This may seem somewhat obscure at first, inasmuch as there are only three primaries, but in a tertiary color some one of the primaries must exist twice. If the secondaries green and orange are mixed, there will result a tertiary color called *citrine*, in which there is nearly twice as much yellow as there is of either of the other primaries, and while it contains nothing but the three primary colors it is in reality composed of four ingredients. In like manner, by mixing the secondaries orange and purple there results the tertiary *russet*; and by mixing purple and green there results the tertiary *olive*. This is clearly shown in the color chart illustrated in Fig. 2.

10. Color Chart.—In addition to showing the tertiary colors, the color chart shown in Fig. 2 illustrates the primary and secondary colors with their principal combinations, as well as how these colors are produced and which colors harmonize by contrast. To find how the various colors are derived from the primaries or secondaries it is simply necessary to find the colors adjoining on either side. For instance, orange is situated between red and yellow, indicating that a mixture of these colors produces orange. A mixture of the secondaries orange and green produces the tertiary citrine. Other combinations are located along the outer edges of the primaries and secondaries. Beyond the orange and adjacent to the yellow is found yellow-orange, which is the result of mixing these two colors. Near the red is found the hue of red-orange, because this is a mixture of red and orange. Similarly, the derivation of any of the other hues may be ascertained.

POSITION OF COLORS IN CHROMATIC SCALE

11. Blue and Yellow.—If a **chromatic scale**—a scale wherein the various colors are related to one another in the same manner that the various degrees of light and shade are related to one another, that is, from most brilliant sunlight to absolute darkness—is adopted, *blue* will be nearest black or



FIG. 1

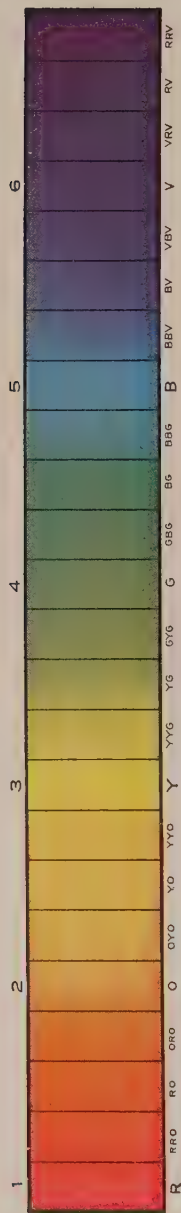


FIG. 3

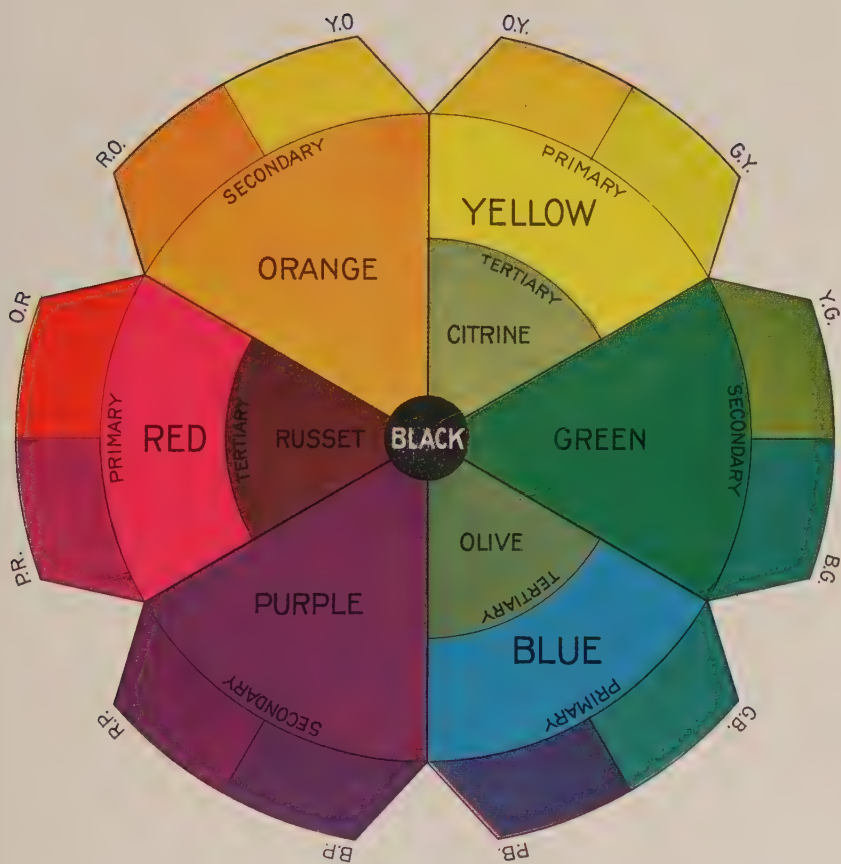


FIG. 2

darkness. That is to say, blue is the least obtrusive of all colors, and when used in a design or a decoration is the least conspicuous. Blue bears exactly the same relation to absolute darkness or black that yellow does to brilliant light or white; the palest tint of *yellow* is nearly white, the darkest shade of blue (*indigo*) is nearly black. Yellow and blue, then, will occupy the extreme ends of the color scale, and all other colors will be arranged between them in the order of their brilliancy or obtrusiveness.

12. Red.—The position of *red* in the chromatic scale is midway between yellow and blue, it being intermediate between white and black or between light and shade. Hence, red has a double power in its mixtures, for by union or mixture with yellow it becomes a warm and conspicuous color, but combined with blue it recedes and becomes colder and retiring. It is preeminent with all colors, forming with yellow the secondary color orange and its close relatives scarlet, etc., and with blue the secondary purple with its allies violet, crimson, etc. It gives warmth to all colors, but particularly to those which already possess a proportion of yellow to some degree.

13. Orange.—Of the secondary colors, the first in relation to light and warmth is *orange*. Such a compound of red and yellow as will, in an equal quantity of either surface or intensity, neutralize a perfect blue is termed a *perfect orange*. The term *neutralize* means to offset completely in intensity or prominence. The proportions of such a compound are very important and consist of 5 parts of perfect red and 3 parts of perfect yellow. An increase of red causes the color to approach scarlet; an increase of yellow causes it to approach a lemon yellow.

14. Green.—In the general scale of colors, *green*, so far as relation of light and shade is concerned, occupies the middle position, but in the secondary colors it is second. It is composed of the extreme primaries yellow and blue. A *perfect green* consists of 3 parts of yellow and 8 parts of blue in equal intensities, and will neutralize a perfect red in the proportion of 11 : 5. Of all compound colors, green is the

most effective, distinct, and striking, and contrasts beautifully with the other primaries and secondaries; it is the most abundant color found in nature.

15. Purple.—The third and last of the secondary colors is *purple*, which is composed of 5 parts of red and 8 parts of blue, and will neutralize a perfect yellow in the proportion of 13 : 3. It is the coldest of the secondary colors and nearest black in respect to light and shade. It is a receding color and possesses many of the qualities of blue in this respect. Next to green, purple is the most pleasing of the contrasting colors.

PROPERTIES OF COLORS

16. Hue.—By **hue** is meant the property of any color that characterizes it as *a color* instead of as a black and white value. If to a certain color is added a small amount of another color, as, for instance, a little yellow to red, there results what is known as a *change of hue*.

In Fig. 3 is shown a full scale of spectrum hues with the initials of the names by which they are known. It will be seen that between each pair of the six main colors of the spectrum there are located several colors that partake more or less of the colors between which they are situated, depending on their proximity to either one or the other. Thus, midway between red and orange is a hue in which the red and the orange are about equally divided, which is therefore termed *red-orange*. Between this and red is a hue that is more red than orange, which is consequently called *red-red-orange*. On the other side of red-orange is a hue that is more orange than red, and is therefore termed *orange-red-orange*. This system of nomenclature is used throughout the entire scale. The figures at the top indicate the six principal colors, and those at the bottom the initials of the intermediate colors.

17. Tone.—By **tone** is meant the property of any color that distinguishes it from other colors, or from certain varieties of its own color, in the respect of its approaching or receding from black; in other words, it is that property which shows whether a color is darker or lighter.

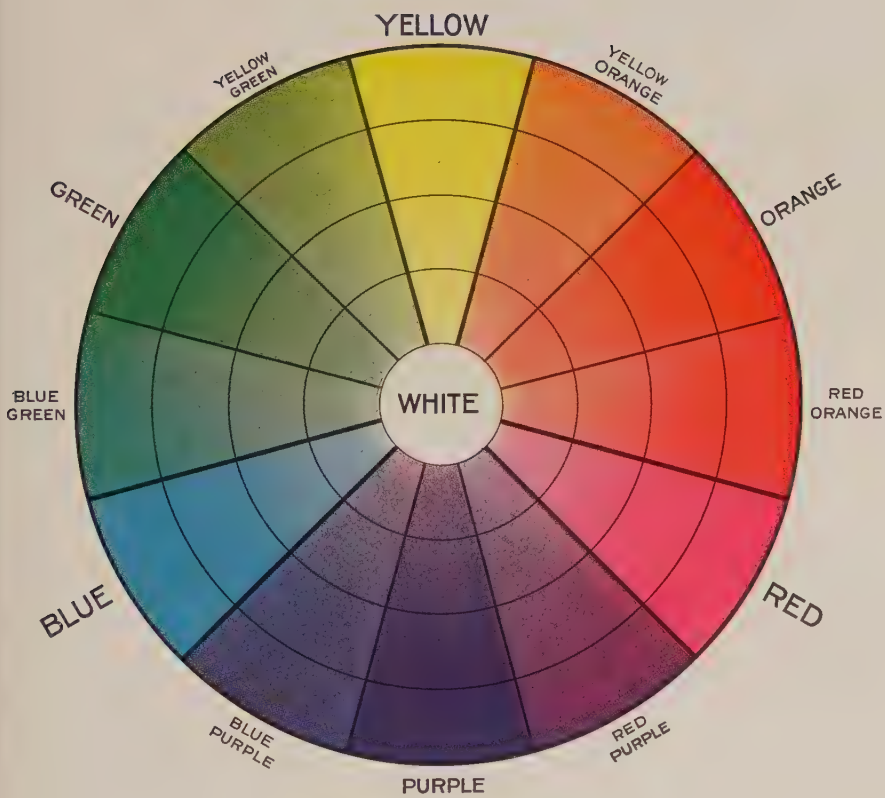


FIG. 4

If black is added to a certain color, it is made darker; if white is added, or, in the case of water-color pigments, if water is added, it is made lighter. In both cases there is produced what is known as a *change of tone*.

Light tones of any color—that is, those approaching white—are called **tints**; dark tones—that is, those approaching black—are called **shades**.

Fig. 4 will serve to show some tints of the leading colors. In the outer circle are arranged the positive colors (see Art. 20), while the inner concentric circles contain *tints* that are gradually reduced by the addition of white as the center is approached. It should be understood that the tints it is possible to make are not limited to the few here indicated, but that these are given merely as an example in order to indicate the possibilities of tint formation between white and the normal colors.

A series of *tones* could also be shown by other concentric rings outside the ring of positive colors, these becoming darker and gradually approaching black.

18. Warm Colors and Cold Colors.—A warm color is one in which there is a predominance of yellow. Examples of warm colors are yellow, orange, yellow-red, orange-red, etc. A cold color is one in which there is a predominance of blue. Examples of cold colors are blue, violet, blue-green, etc. Warm colors and cold colors produce in one the mental sensations of warmth and coldness, respectively.

19. Value.—The term **value** is applied to the relative amount of light reflected by the different colors, the strong values being those which approach white on one side and black on the other. For example, in some object there may be as many as six tones of color—three grades in the light and three in the shaded portion. The high light will have the strongest value in the lights, and the deepest shadow will have the strongest value in the dark portions. A correct rendering of these comparative values is essential to the proper representation of any object.

20. Positive Color.—By the term **positive color** is meant the pure determinate color that may be produced with a strong wash of any one of the primary or secondary pigments; that is, the clear color as it comes in the color box.

21. Local Color.—The term **local color** is used to denote the general color of an object without reference to the accidental effect produced by light and shade, distance, or the reflection of other colors. For instance, the foliage of a tree is green in its local color, but in the reflected light of a sunset it may be golden brown; distance may render it a bluish tinge, and atmospheric conditions may reduce it to a neutral gray. Thus, it will be seen that the apparent color of an object may be much different from what the local color would indicate.

22. Complementary Colors.—The **complementary colors** are those which, by their union, will theoretically produce white, or neutral gray. It is impossible to produce pure white by a combination of pigments, but it is possible to produce a dingy white or neutral gray by a mixture of all the spectrum hues in pigments, either individually or through the secondaries. Thus, the secondary colors become the complementaries of the primaries, inasmuch as by mixing any secondary with its opposite primary there results, to a certain extent, the elements that go to make up all the colors of the spectrum. For instance, as red and yellow make orange, red and blue make purple, yellow and blue make green, etc., all of these colors are the result of a combination of red, yellow, and blue. Therefore, the complementary of any one of the primary colors will be the secondary color that contains the other primaries. Green thus becomes the complementary of red, purple of yellow, and orange of blue.

Carrying this theory down more exactly, blue-green becomes the opposite of orange-red, reddish blue the opposite of green-yellow, and red-orange the opposite of green-blue. As the red pigment leans toward yellow, thus becoming slightly orange, its complementary color—green—becomes bluer in order to compensate properly. As the red pigment approaches blue, its complementary color—green—takes on more yellow in

order to offset the blue that is in the red, because there is already sufficient blue in the green to compensate the plain red. So it is with all the other colors and their opposites, and the complementary of any color can thus be obtained with sufficient accuracy for all practical purposes in painting.

23. Contrast.—The term **contrast** is applied to the effect produced when two or more colors, or different tones of the same color, are placed next to each other. There are three kinds of contrast—*contrast of tone*, *contrast of hue*, and *contrast of tone and hue*. Thus, the combination of a tint and a shade of the same color will produce a contrast of tone; a combination of two distinct colors of the same tone will produce a contrast of hue; and a combination of opposite colors, one of which is light and one dark, will produce contrasts of both tone and hue.

When colors of different natures are placed next to one another, they have the power of mutually affecting each other with their complementary colors. Thus, when red and green are placed together, they each appear more intense. When a neutral color is surrounded by a positive color, the neutral color becomes tinged with the complementary color of the positive; that is, when a gray is surrounded by a red the gray appears tinged with green, that being the complementary of red. This is called *simultaneous contrast*.

In like manner, as before stated, there can be simultaneous contrast between two *colors*. Thus, when blue and yellow are placed next to each other, the blue affects the yellow with a yellowish tinge that is much brighter and more intense than the yellow itself; there is thus an increase both in light and in saturation. The yellow, on the other hand, tinges the blue with a more intense blue, and a mutual increase in brilliancy is the result.

This explanation of simultaneous contrast is given, not merely as an interesting property of color, but to prepare the trimmer to use the proper colors when painting objects, drapery, landscapes, etc., particularly when portraying shades and shadows. The shaded parts of an object, as well as the shadow

cast by it, are parts that receive very little illumination. To the untrained observer they may appear to be a neutral gray; but, after his color observation has been trained, he can see that these shaded portions and shadows become tinged with the complementary of the adjacent positive color—which is an effect of the law of simultaneous contrast. For example, a shadow cast on a stretch of yellow-green grass appears tinged with a reddish hue, red being the complementary of green.

24. Shade and Shadow.—Shade is produced by varying the degree of light. If an object is equally illuminated on all sides, it possesses no shade side; but where the light falls upon it from one direction some parts of it are illuminated more than others and there is a light side and a shade side. If opaque, the object interferes with the passage of light and casts a *shadow*. Shadows vary in degree from a slight diminution of the power of the direct light to utter darkness.

25. Artificial Color.—The only way in which the sensation of color can be produced with any degree of permanency is by means of pigments or dyes. If a person stains a piece of paper or fabric with a certain dye, or if he paints its surface with a pigment, he produces on that paper or fabric the sensation of a given color. This is due to the fact that the pigment or dye has the chemical quality of absorbing all the color rays that compose the white light except the particular color that it reflects back to the eye, and thus produces that sensation.

PAINTING OR SKETCHING FROM NATURE

26. Nature affords the best study in color composition. After the trimmer becomes sufficiently experienced to define hues, tints, and shades, and has trained his eye to observation and his memory to retain the normal colors with their variations, he will learn much from nature's combinations, be it in cloud effects, autumn tints of foliage, flowers, or insects, etc. Therefore, if he desires to become expert in scene painting, he should embrace every opportunity for outdoor study. Painting or sketching from nature consists simply in recording facts

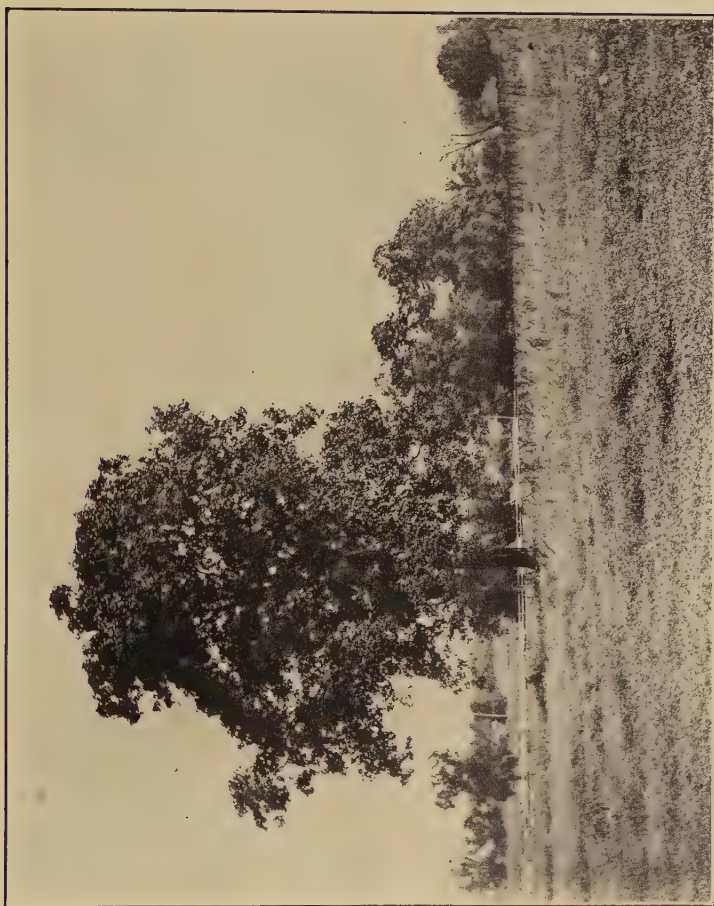


FIG. 5



FIG. 6

that cannot be expressed in words. However, it is necessary that the eye and the hand be trained together if it is desired to make these records with any degree of accuracy.

27. In observing color out of doors one has to take into account the subtle coloring influences of the atmosphere and colored sunlight. The effect of the atmosphere in landscape scene is to change the color according to the amount of moisture that the atmosphere contains. For example, on a fine day, a tree one-half mile away may appear distinctly modeled and quite green in color, but a day or two following its tone will have changed to a bluish gray without any sign of modeling or detail, except on the edges, where the leaves blend into the sky in a spongy mass. Observe, in Fig. 5, how sharp and distinct the trees in the distance are profiled against the sky. The foliage of many of them is quite as distinct as the large elm in the foreground; but in Fig. 6 a much different condition exists. A haze rising from the ground obscures not only the delicate lights and shadows of the trees but also all the detail except their general outlines, and they appear simply as spongy masses, while the tree in the foreground is but slightly affected. In painting Fig. 6 from nature, the tendency would be to render the distant trees with nearly as much detail as the one in the foreground, for knowing that they are similar in structure one deceives himself into believing they appear quite as clearly as those in Fig. 5. In all cases, one must be particularly careful to paint objects as he sees them instead of endeavoring to render them as he knows them to be.

Smoke and dust also obscure the outlines of objects in landscapes and often affect their color, but these are not so lasting as the effects of fog and therefore need not be taken into account as a general thing.

28. The most delightful times of the day for landscape work, both on account of the soft outlines and the delicate colors, are morning and evening, when the atmosphere is most affected by moisture and the sunlight is most eccentric in color.

It is evident that in order to gain a mastery of nature one must be content at the beginning with a study of her less

subtle and less transitory effects. After the observation has become trained and keen from much practice, the study will contain more difficult and more delightful phases.

Outdoor light is trying to the eyes and constantly changing, and therefore likely to deceive the artist. Then the question of subject comes up—how much of what is seen shall be painted. This is one of the most perplexing questions to the beginner, for composition is of the utmost importance in outdoor study. One object will form a picture; a number of objects may form the subjects of a study. When attempting to form a picture, the principal object must be well balanced on the canvas and surrounded by minor details that in no way detract from its importance.

29. The term **sketch** is applied to a sort of shorthand rendering of effects or objects as they are seen; it is a brief record of a pleasing combination of color masses. A **study** differs from a sketch inasmuch as it requires more time and goes further toward completion; it tells more literally the story of what is before the eye. It is a record set down with painstaking care, whereas the sketch is readily placed on the paper and its use in a future composition is dependent on the artist's further training and actual knowledge of conditions that are unnecessary to record. The study lacks the dash and spirit of the rapid sketch as well as the clever and painstaking finish of the picture, and is a medium through which one must arrive at the other two.

The landscape painter makes many studies and sketches from nature, but very rarely finishes a single picture outdoors. The picture is usually made, from the studies, in the studio, where the artist may take his time under the best conditions of light and supply what his sketches lack in detail and effect from a stock of stored-up observations in sketches or studies or from his memory.

30. In Fig. 7 are shown three sketches, the originals of which were hurriedly made one morning on pieces of paper $3\frac{1}{2}$ in. $\times$ 6 in. They record the impression of sunlight in the middle of the forenoon. No attempt is made to detail the



(a)



(b)



(c)

FIG. 7



FIG. 8



FIG. 9

foliage or the buildings, but simply to show the effects of colors in this brilliant sunshine. The masses are expressed in broad, flat washes, a single wash being sufficient for each one in many cases. The color and the relative tones of the masses, as well as the characteristic forms of the different trees, are the only details that have received attention.

Sketch (a) shows a memorandum of a country road over a bridge, with sycamore and willow trees casting a shadow over the road at the bridge. Beyond this on the left are some soft, gray willows. The high light is on the masonry of the bridge railing. The sycamore tree in the foreground has a decidedly yellowish-green hue, while the ground is lighter than the tree. The small willow in front of the sycamore is a purplish gray, and the roadway a light tint of orange. The shadow on the road is a purplish gray, the distant trees are a bluish purple, and the distant road and grass are much paler than in the foreground. The sky is a pale blue with soft, yellowish clouds. Thus, the sketch records more realistically and satisfactorily the actual conditions of light and shade and color that exist in this little piece of country roadside than words or descriptions could express. The other two sketches, (b) and (c), are simply repetitions of this one and can be much more readily made than any other form of notes. Thus, it will be seen that the sketch is a simple memorandum of existing conditions.

Fig. 8 shows a study, made in the early spring time, of an arched stone bridge and a little stream in the foreground. The color and light are here subdued, while the greenness of the grass and the scarcity of foliage are strongly suggestive of the season.

Fig. 9 shows a study of an up-hill road that passes an old-fashioned plaster house; it was evidently painted in the early morning. The problem in this case was to make the road appear as if it came toward the observer as it descended, instead of extending as a perfectly flat plane in front of him. This has been accomplished by increasing the amount of color and effective detail in the foreground and by so drawing the lines as to get the effect of a receding plane. The blue gray of the distant trees is nearly the same in tone as the shadows

on the road; this color forms a pleasing contrast with the warmer tints of the sky, the house, and the road. There are no crude greens in either Fig. 8 or Fig. 9, and the whole is worked up much more in detail than any of the sketches in Fig. 7.

31. Most open landscapes can be divided into four elements—sky, distance, middle distance, and foreground. The composition of the picture depends on placing these masses so that they balance well; to overlook this important detail spoils the picture, no matter how well the different parts have been executed individually. A good way to judge the appearance of a picture is to carry along several cards about the size of a postal card, in which small rectangular openings of different proportions have been cut. One of these cards held in front of the eye will screen all the landscape except that which may be observed through the opening, and thus the amount to be included in the picture and the proper balancing of its values and tones can be better determined than where the whole landscape is spread out at one time. Differently proportioned rectangles should be tried on the same landscape and adjusted both horizontally and vertically, to observe not only which is the more pleasing but also the relation of the lines and masses of the picture to the lines of the frame.

32. Nearly every landscape contains a horizontal line where the sky and the distance or where the distance and the ground meet. If this line is decided, like the horizon line of the ocean, it should be placed well above or below the center of the picture, for if the picture contains two equal masses of sky and foreground, the interest is evenly divided between the two and the picture loses in effect. When apparent, this line should be the first thing placed in the picture, as one can judge from its position about how the finished composition will look. If it is desired that the picture shall have the appearance of a hill, like the picture in Fig. 9, the horizon should be placed well toward the top of the picture, thus admitting very little sky. If the sky is an important thing, the line should be placed low. The important upright mass should not occupy the center of the picture nor a position



(c)



(a)



(b)



(d)

Fig. 10

too near the edge, and the lights and shades should be balanced so that neither one nor the other appears to occupy all of the important position on either side of the center of the picture.

33. The chief concern of the beginner is with the color appearances and the effects in nature. He must learn to reduce what he sees to its lowest possible terms before putting it in color. He must eliminate all thought of detail and try to see the elements in simple, flat masses of color; that is to say, a distant lot, tree, or house should appear simply as an irregular mass of color and not as what it really is. A clear sky is simply a wash of pale blue graded into pearl gray as it approaches the horizon. A distant bank of woods is a wash of bluish purple that is much darker than the sky. The ground is simply a graded wash of a given color, light in the distance but deepening as it comes forwards, the purity of the color increasing as the foreground is approached. The trees or other objects that form the middle distance are washes of more positive color, while the foreground is usually a mass of rather dark, prominent color, more detailed in the end than some of the distant elements, but, nevertheless, a mass when considered in the picture.

Fig. 10 shows four studies treated in this simple manner. In view (a) is represented a little stone arched bridge overrun with vines. The foreground is in shadow, with gray-green banks of grass and leaves. The sunlight strikes one edge of the bridge, which is thrown into relief by a mass of purplish-gray trees beyond. Care has been taken to match the values and to strike the color as nearly as one flat wash will allow. Both in this sketch and in that shown at (b) the treatment is simple and almost poster-like in effect. The sketch (b) is of a freshly painted house. Its sunlit end is strongly contrasted with the dull-red roof and the dark-green maple tree beyond, although both of the latter are in sunlight also. These values can best be judged by closing the eyes almost entirely and peering steadily between the lids toward the object it is intended to portray. In this way much detail is lost, masses

of light and shade bring themselves into greater prominence, and the true values of color become more apparent.

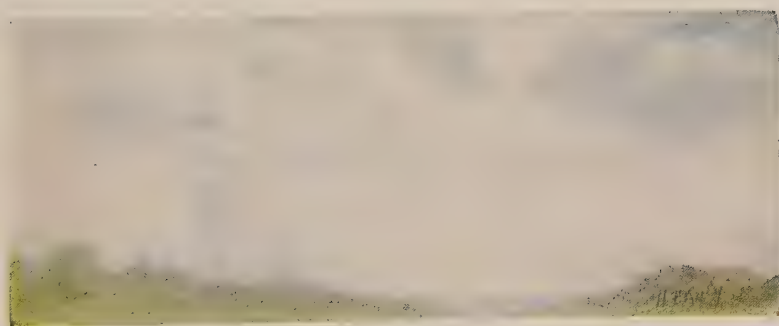
The subjects in views (c) and (d) are more elaborate, introducing tree forms at varying distances and of different hues. There is more detail and more evidence of skill in the handling of the washes in these two studies, which begin to show the grading from one color into another without hard edges, as is the case in view (b). In (c) a cloudy sky has been suggested by simply using two tones. The foreground of view (d), where the reddish and purplish gray blend softly with the warmer tints, still preserves a fairly definite form; these represent foundation washes on which the rest of the work is built up.

34. In making a color sketch from nature, the beginner should learn first to treat the general landscape as all other subjects; the suggestive wash is first carried over each figure of the sketch, giving to it the proper tone and color as nearly as skill in observation will allow; the second painting then follows. He should work up and elaborate various details and improve the tone relations until the whole is suggestive of what the intended work must be when finished. In doing this, it is better to work up too little than too much.

In all landscape work, the sky should be considered as the under surface of a dome that changes in hue from the zenith to the horizon. In a cloudless sky this gradation is from a transparent blue above to a pearl gray at the horizon, which varies materially with the amount of moisture in the atmosphere. This gradation should be carefully observed, otherwise the sky is likely to appear like a vertical screen or plane hanging behind the rest of the picture. When the sky is cloudy, this arched effect is made much more evident by the gradual foreshortening of the clouds as they approach the horizon. The large, white, fleece-like clouds that float across the zenith of a blue sky are not so bright when low or near the horizon; in some places they are yellowish in lights, while in others they are varied by hues of gray, in the shadow portions, that often softly melt into the blue of the clear sky.



(a)



(b)

FIG. 11

When high in the sky they may be represented with white high lights and more sharply defined edges. Clouds are of much interest because of their great variety of forms, their color, grandeur of masses, and wondrous structure and texture.

35. Fig. 11 shows two cloud studies in which the landscape is barely suggested in the foreground, and is introduced merely to show the relation of the sky and the horizon. In (a) the sky is comparatively clear in an afternoon light; the color of the sky and clouds grades off as it approaches the horizon, the blue becomes greenish and then gray, and the clouds take on the softening gray of the atmosphere. A sky like this may be painted by applying the graded tint with a large brush as quickly as possible, taking no account of the cloud forms. The brush is then rinsed and dried by a rapid shaking, and the high lights, or white portions of the clouds, are wiped out while the surface is wet. This occupies but a few moments and makes it possible to catch passing cloud forms, no matter how changeable they may appear to be. The local color and the modeling of the clouds may be painted in at leisure. Should it be desired to sharpen the upper edges of the clouds, another light shade of blue may be applied to the upper sky, but care should be taken not to make the outlines too hard.

The painting of skies, like everything else, must be done with a view to expressing their general character rather than the detail. Cloud forms are too transient to allow of exact representation, and it is perfectly proper in any composition to alter the form and position of any clouds if by so doing the composition is improved. Clouds should appear to float in the air. When they prepare to fall they melt away slightly at the lower edges, as shown in Fig. 11 (b). This is a characteristic rainy-day sky and is very skilfully managed. The gradual losing of one form into another as it approaches the horizon and the beautiful variations of delicate gray are suggestive of an approaching storm. These grays are produced with red, yellow, and blue, and are applied after the surface has been moistened with a brush so that no hard lines will exist. The

distance is the part of the landscape most strongly affected by the color of the atmosphere, and much of the pleasing effect of the picture is dependent on the skilful handling of this detail.

36. Different planes of distance must often be expressed. These are usually kept distinct by their varying hues and degrees of contrast as expressed in their forms; remote distance is best expressed in flat washes of bluish gray. The beginner is apt to misjudge values and make strong contrasts of tone in the distance; he is also likely to misjudge the color, and forgets to compare it with the nearer parts of the same scene. The skilled artist, however, cannot afford to represent all that can be seen in any feature of the landscape. He has early learned to sacrifice for the sake of simplicity, and recognizes the charm that the suggestive, semidistinct outline possesses and endeavors, by its use, to infuse a quality of mystery into his painting. At first make the distance very flat and decidedly blue; the greatest error that can be committed in this direction will be to make it to appear too distant, but it can afterwards be built up and brought forwards until the right tone is obtained.

Objects occupying the middle distance, such as trees, buildings, etc., must be studied by themselves as well as according to their relations to the whole subject. Tree forms and foliage demand much study, and although they are difficult to master they can be satisfactorily portrayed after practice and persistent effort. In studying a tree or a group of trees, one should stand at least three times the height of the tree away from it, and then consider it from the same points that he would consider any other object of which he is to make a sketch. Its form, texture, and color must be noted, for in these lie its whole character. These characteristics change, of course, with the seasons; at least they do in some latitudes, and it is largely by representing this changed condition that one gives expression to the different seasons in his picture.

It should be borne in mind that trees are not always green, and also that trees never appear all green. The observance

of any ordinary tree in bright sunlight will show that many of the shining leaves reflect the blue from the sky and appear almost white; others, penetrated by sunlight, are vividly yellow, or light green; and still others, cast into the deep shade, appear almost neutral gray.

Color harmony teaches that when blue and yellow are mingled in small particles, gray is produced, and not green. Because of this fact it is impossible to produce a good effect by painting trees in several tones of green; modified colors must be used, both for the light and the shade. In trees, as in all objects, one may expect to find the shadows contrasted with the lights in color; therefore, when the light in the tree is a yellowish green, the greens in the shadow portions must necessarily have a violet tinge. The trunks of trees are usually of various tones of purplish gray, often deep in color when they are in deep shade, but under no circumstances are they black.

37. Buildings and other architectural details, when introduced into landscapes as subordinate features, do not require especial attention. They are usually rendered in flat tints and there is no great difficulty in determining their color. Old and dilapidated buildings require some special attention in order to get the proper hues where the brick has become stained by age or where moss has accumulated on the stonework and shingles. Moss due to constant dampness and decay varies in appearance from that due to a dry or more barren decay, and attention should be given to the matching of these hues.

The effect of distance or perspective of the ground is usually expressed by changing the color and diminishing its intensity as it recedes. The atmospheric conditions affect the horizontal as well as the vertical features of the picture and therefore must be taken into account, even when great distance is not shown. A meadow may stretch between us and some distant tree—a matter of several hundred feet. Certainly the foreground cannot be expressed by a flat wash of green, as it grows less and less green with every foot that it recedes into the distance.

Sunlighted grass is yellow with very little green in it, and in foregrounds may be safely represented by gamboge containing a little emerald green. The shadows are cooler and more green, and are best produced by adding blue to green. In late summer the bloom on grass and weeds materially affects the color of the ground. Its reddish-purple masses are broken through the green of the foreground but generally cover the green entirely in the distance, where the eye naturally looks over a considerable mass of bloom and feels that the green of the grass is entirely hidden. The coarser texture of the foreground, due to the effect of nearness, can best be expressed by broken washes and the addition of bright bits of color in the path, stones, or exposed earth, but the foreground should be kept simple. Near-by weeds or bushes should be expressed in masses and not in detail.

A path, a road, or a stream of water coming into the foreground lends interest both by the lines and the variety of color that is thus added. Clear, still water reflects objects with colors almost unchanged, but when the water is seen at an angle and the sky is reflected into it, the nearer surface is darker in tone than the shore in the distance; this is due to the deepening of the color of the sky toward the zenith.

PAINTING OF SCENERY

38. Preparing the Canvas.—The first step in the making of scenery for backgrounds, etc. consists in preparing the canvas; that is, in covering a frame with muslin or some similar material and then sizing it so as to procure a smooth, hard surface, or foundation, for painting the picture.

The frame on which to stretch the canvas usually consists of $3'' \times \frac{7}{8}''$ strips of wood put together in the manner shown in Fig. 12. Particular attention should be paid to the way in which the corners of such frames are fastened together and braced. As shown in the illustration, about one-half the width of both ends of the top and bottom strips is usually notched out so as to receive the ends of the side strips *b* and *c*, which are nailed as shown at *a*. The corners are generally

braced with triangular pieces of thin wood, as shown at *d*, as well as with strips cut at a 45-degree angle, as shown at *e*. In addition, a central strip, as shown at *f*, is used to keep the long strips from sagging at the center when the muslin, or canvas, on which the painting is to be done is stretched or tacked on it.



FIG. 12

A medium grade of unbleached muslin 36 or 72 inches wide is the most suitable material on which to paint scenery. If 36-inch material is to be used, it should be sewed along the selvage. More than three strips of this width will seldom be required for a background. In covering the frame with muslin, it is advisable to start in the center of the top strip of the frame and draw the cloth both ways; that is, to tack part way on one side of the central tack and then part way on the other side, fastening the bottom and then the ends of the goods in the same manner. If the painting when finished is to be left on the frame, the tacks should be driven in as far as their heads will permit; but if the frame is too large to be taken through the show-window entrance or if the scene is to be removed from the frame and used as a drop curtain, the tacks should be driven into the frame only about half way, so that they may be easily removed. The tacks should be spaced about 2 or 3 inches apart, because the size, which is applied to the cloth as soon as the frame is covered, has a tendency to draw the goods very

tight, causing a great strain on the tacks. For the same reason, it is not necessary to stretch the muslin very much when covering the frame.

Gilders' whiting (bolted) or any good prepared water paint will be found suitable for the sizing, or primary, coat that is needed to give the cloth a smooth, hard surface, or foundation, on which to paint the scenery. Either of these materials should be soaked in water until all lumps are dissolved into a paste form. Then a small quantity of glue—say, a handful of ground glue that has been dissolved by covering it well with water and letting it stand from 6 to 10 hours—should be mixed with the whiting paste, after which the mixture thus formed should be thinned with hot water until it will flow from a brush in a smooth, easy manner and cover the canvas without causing streaks.

39. Marking Off the Canvas and the Study.—After the muslin is fastened to the frame and sized, both it and the study should be marked off into squares, so that the picture can be reproduced on the canvas with very little effort. As a rule, the canvas is marked off into 1-foot squares, and the copy, which may be a freehand memorandum similar to the sketches shown in Figs. 7 and 10, a printed study purchased at an artists' supply store, or a picture obtained in some other way, is marked off into an equal number of 1-inch squares. For example, if a canvas is 9 ft. $\times$ 12 ft. in size, it should be marked off into 108 1-foot squares, and the study, after being trimmed at the top, bottom, and sides so that it will be 9 in. $\times$ 12 in. in size and correspond in shape with the canvas, should be marked off into 108 1-inch squares.

The canvas is usually marked off with a chalk line, and the study with a ruler and pencil. Fig. 13 illustrates the way in which a chalk line is used to mark lines on the canvas. One end of the line *a* is held at one end of the frame by means of a sharp-pointed hook similar to a fish hook, as shown at *b*, and the other end is held by the left hand, as shown at *c*. After the line is chalked by rubbing a piece of crayon or chalk over it and drawn tight, it is pulled out or away from the canvas for a

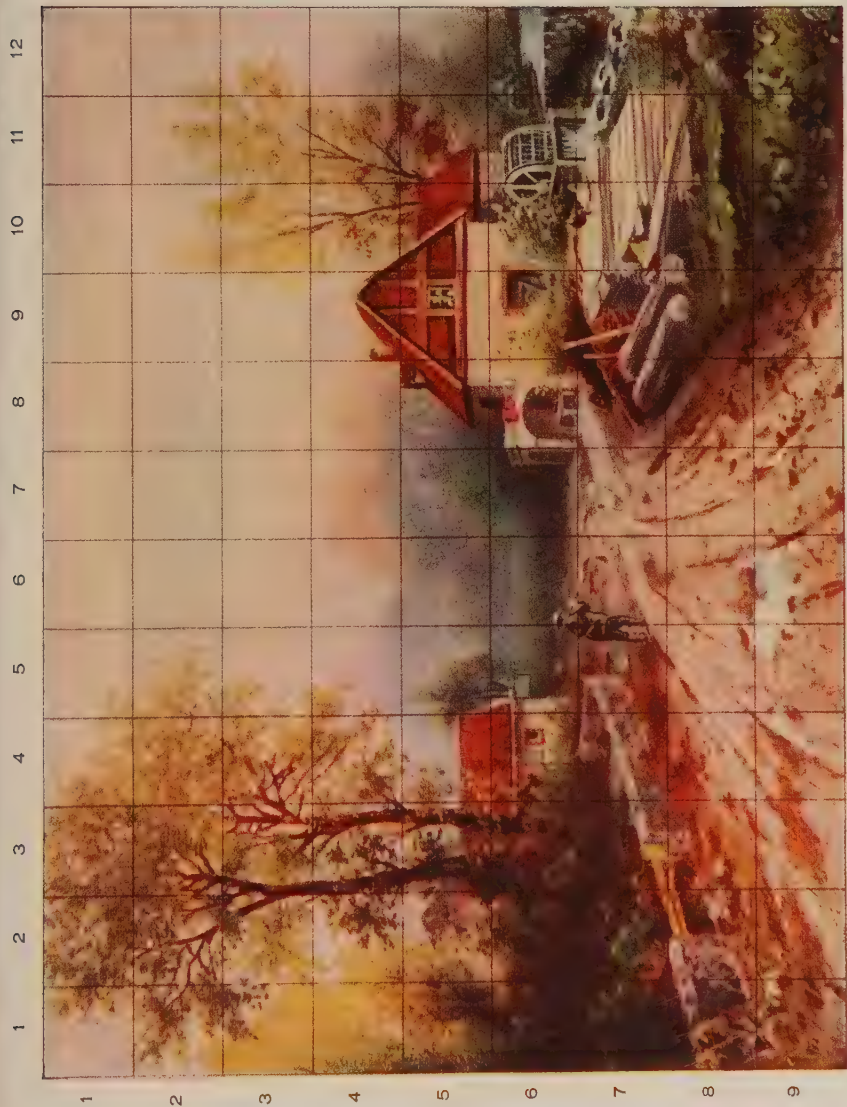


FIG. 14

few inches with the right hand, as shown, and then snapped against the canvas. This operation knocks the chalk off the line and makes a clear-cut, straight line. This method of making lines is continued until all the squares are formed.

If a design to be reproduced is a complicated one, the squares on both the canvas and the copy should be made half size in order to simplify the work of reproduction. For convenience

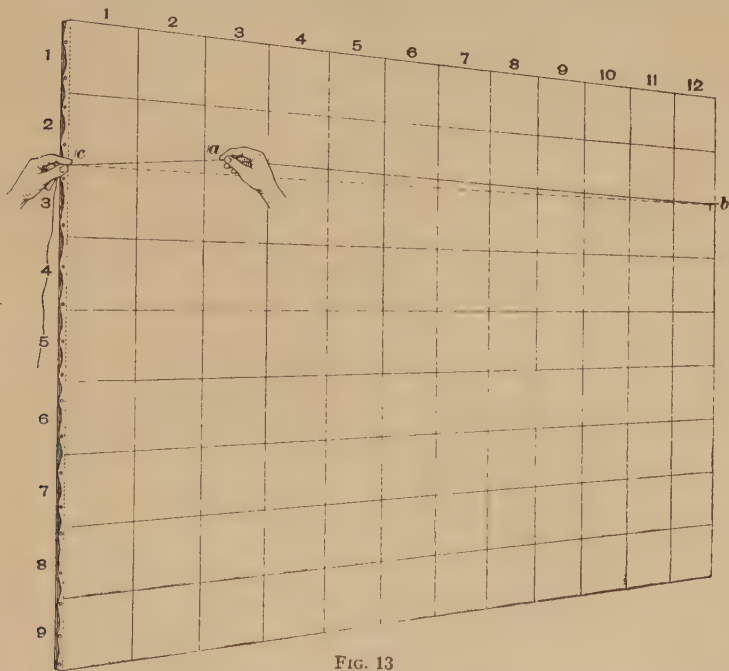


FIG. 13

in outlining the design on canvas, both the canvas and the copy should be numbered as shown in Fig. 13 and in Fig. 14, which shows the copy of a scene for reproduction marked off into squares. If the copy is such that it cannot readily be marked and trimmed, a white-paper mat of the proper size should be placed over it, and instead of drawing lines on the picture squares can be formed by means of fine thread and pins or thumbtacks. In such cases, it will be necessary to fasten both the study and the mat to a board with thumbtacks.

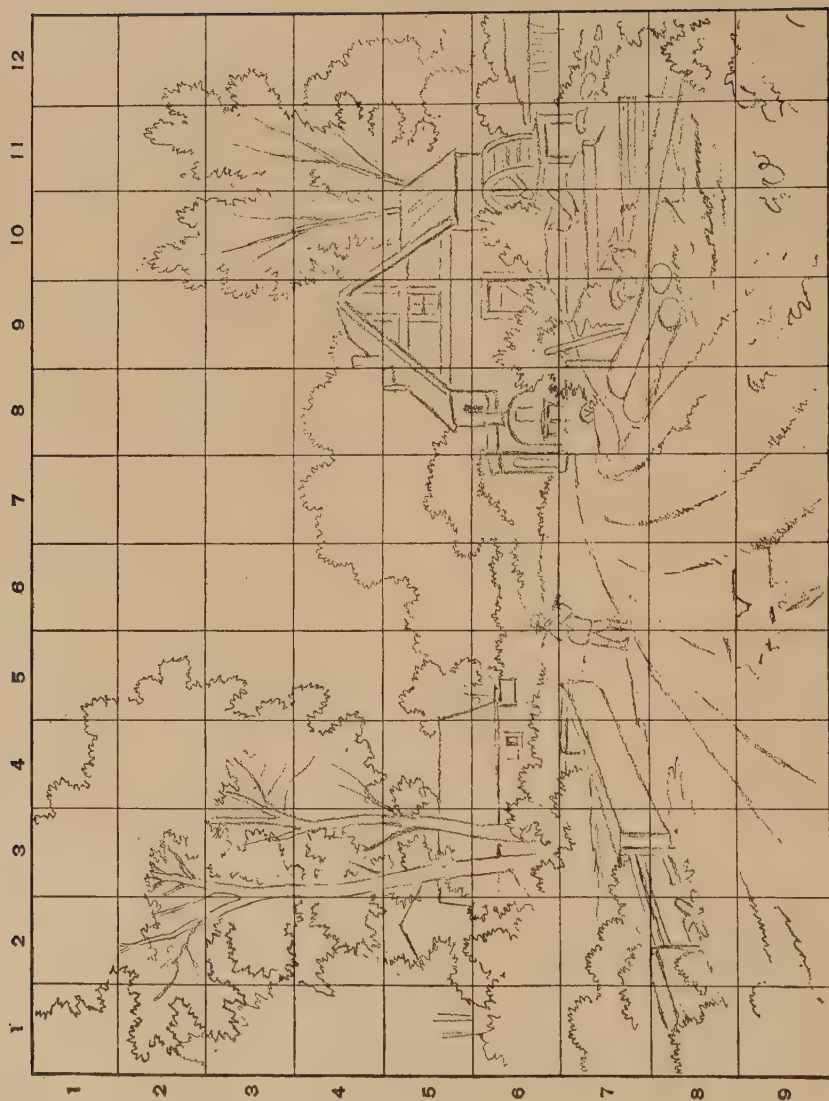


FIG. 15



40. Sketching the Study on the Canvas.—After the canvas is prepared and both it and the study are divided into squares, the next step consists in sketching the study on the canvas. The sketching is done with an artist's charcoal pencil. The method of sketching is simple, because it is merely necessary to draw the outline of the part of the picture in the square in its proper square on the canvas, being careful to reproduce the parts so that they occupy practically the same positions in the large squares as they do in the small squares on the study.

Fig. 15 shows how a sketch of the scene shown in Fig. 14 will appear on the canvas. The sketching is started in block No. 1, which shows, at the right, simply a few wavy lines that represent the outline of part of the tree. The outline of the part of the tree in the block below the first one is then drawn. It consists of a wavy line drawn about three-fourths the distance across the top of the square, then down toward the lower right corner to almost the center of the square, then toward the lower left corner, then in a zigzag manner across the square almost to the side line, and finally at almost a 45-degree angle to the center of the lower line of the square. This method is continued until the part of the picture in each square on the study is sketched in its proper square on the canvas.

If the beginner takes great care in drawing the outlines in this manner, he should experience no difficulty in making good sketches on canvas. Of course, it is not necessary that each line be absolutely accurate, except in cases where the perspective is to be shown, as, for example, the road, the house, and the fence in Fig. 15.

In Fig. 16 is shown an outline drawing of the study shown in Fig. 17. This study will be found excellent for the practice of painting both water and sky. The water, as will be noticed, is painted and shaded almost the same as the sky, because it represents the reflection of the sky in the water. The sketching in this case will be found more simple than in the preceding case.

41. Cleaning the Canvas After Sketching.—After the study has been sketched on the canvas, the excess charcoal, as



FIG. 17

well as the chalk marks, should be removed so that it will not mingle with the paint when the colors are applied and in this way cause smudges. This is best accomplished by striking the canvas with a flogger made by tacking a number of strips of canvas to the end of a piece of broomstick. Removing the charcoal dust from the sketch in this way will of course leave the drawing somewhat faint, nevertheless it will be sufficiently clear to work by.

42. Paints and Brushes for Scene Painting.—After the design is sketched on the canvas and the excess charcoal is removed, the work of painting, or applying the colors, may be done. Although oil paints can be used for this work, they are usually too expensive and too heavy for the purpose. As a rule, either ready-mixed distemper colors or dry colors mixed with water are employed for the painting of scenery. The dry colors cost less than the ready-mixed distemper colors and are usually just as satisfactory. The necessary colors to purchase in case the trimmer does not wish to mix them himself are Venetian red, cobalt blue, raw umber, medium chrome green, raw sienna, rose lake, French zinc white, medium chrome yellow, drop black, and Turkey lake, medium. By combining these colors, they can be made to show any shade or tint needed in scene painting.

Although the professional scene painter makes use of many brushes and devices, the beginner can get along very well with the following brushes: One wide wall brush for applying water colors; two flat bristle foliage and lining brushes, one of them 1 inch wide and the other $1\frac{3}{4}$ inches wide; one round bristle foliage brush, No. 1; and several liners varying from $\frac{1}{4}$ to $\frac{3}{4}$ inch in width. These brushes should be set in shellac in tin ferrules, and before using them they should be well soaked in clean water so as to soften them.

43. Painting the Scenery.—In order to get the best results in applying the colors in scene painting, the beginner should perform the work in the same manner as a scene painter would. Thus, he should begin at the top of the canvas and work downwards, painting in the sky first. Cobalt blue mixed

with zinc white makes a good sky color. The sky may be blue at the top and gradually fade out as it nears the horizon. Clouds had better be left alone by the beginner until he has had some practice, because they are found difficult to paint even by experienced artists. When the sky is finished, the trees in the extreme distance of the study should be blocked in. These should be blue and, if they are very far off, should appear as an irregular faint blue strip. The trees in the middle distance should next be blocked in roughly, a medium chrome green being used for this purpose in most cases. At this stage the trees will be mere blotches of color that can be shaded later. Next, the beginner should proceed with the buildings, trees, fences, and whatever other objects there may be in the foreground of the scene. The work should be done with broad, bold strokes, and the detail should not be considered. The less detail worked out at this time, the better; indeed, whatever detail there is should be reserved for the finishing touches. It should be suggested rather than drawn. After the whole picture has been blocked in as just described, the finishing touches, such as putting in the shadows and the high lights, should be made. At this time, the copy should be followed exactly in both line and color.

Before a color is applied to the canvas, it should be mixed on a palette, or any board for that matter, until it is exactly the same shade as that shown in the study; but it will be well to remember that distemper colors are much lighter when dry than when wet, in which cases the colors will have to be mixed darker. If such paint is used, it is usually best to try out the colors before applying them to the canvas. This can be done by brushing a small amount of the mixed color on a piece of white paper and placing it where it will dry quickly.

It will often be noted that every object having more faces than one has several colors of the same tone; thus, there is the color caused by the light falling directly on the object, the high light, and the shaded side. Every tree in foliage also has several colors; the side on which the light strikes it is much lighter in tone than the shaded side. In drawing details, the beginner must always bear in mind that the farther back in the picture

the object is, the less detail it has and the less sharp it is in outline. Vague outlines give the effect of distance and atmosphere to a picture.

It will require some little practice for the beginner to turn out good paintings, and first attempts are likely not to prove unqualified successes. For this reason, he will find it advisable to practice on a small canvas until he becomes familiar with the handling of colors. With a little practice, however, and by following his copy faithfully, any person should become able to paint scenes that will do very well for window backgrounds.

USEFUL INFORMATION FOR THE TRIMMER

RECEIPTS AND DATA

44. Trimmers' Calendar.—Windows trimmed with features pertinent to those events of the year which are occasions of public celebration attract favorable comment on the public spirit of merchants as well as considerable extra trade in the merchandise suitable for the occasions. Among these events are: January 1, New Year's day; January 25, birthday of Robert Burns; February 12, Lincoln's birthday; February 14, St. Valentine's day; February 22, Washington's birthday; March 17, St. Patrick's day; Easter, which is a movable feast, usually some time late in March or in the first half of April (the spring opening and Easter decorations are generally combined and usually kept on display for a week or two before and for several days or a week after Easter Sunday); May 30, Decoration day, also known as Memorial day; July 4, Independence day; first Monday in September, Labor day; about the middle of September, fall-opening decorations (opening dates vary according to locality and the individual notions of merchants and managers); latter part of November, Thanksgiving day, which is also a movable feast; December 25, Christmas. Decorations for Christmas and for the gift-purchasing season, which extends over 2 or 3 weeks before Christmas, are

always combined and finished for exhibition not later than 10 days before Christmas, but more generally from 2 to 3 weeks before that date.

45. Trimmers' Don'ts.—Besides the actual arrangement of the background and merchandise in displays, there are a number of things that must be avoided in order to produce first-class display work. Some of them are as follows:

Do not overcrowd a display space.

Never trim a display space until all parts have been thoroughly cleaned and dusted. If it is a window, see that the glass and fixtures are thoroughly cleaned and polished.

Never use soiled cards or price tickets. If any are dirty, get new ones. Have them harmonize with the color scheme of the trim. Use catchy wording on the cards and see that it is neatly executed; also be sure that they are hung or placed in position perfectly straight. Nothing detracts so much from an otherwise good display as dowdiness in the make-up and arrangement of the cards and price tickets.

See that the awnings are properly adjusted to protect the merchandise from being faded and ruined by direct sunlight.

Do not allow any one other than yourself or assistants to enter the display spaces to remove goods, as they are sure to disarrange the display and to make no effort to repair the damage.

Always see that the lights, shade cords, etc. are in good order before beginning a trim. This will avoid the necessity of disturbing a display after it is finished.

46. Show-Window Photographing.—The securing of a good picture of a show-window display is rather difficult. The greatest obstacle is the reflection of opposite buildings, cars, people, etc. that is produced by the polished surface of the plate glass; this tends to confuse and destroy the image of the display if not obviated when the exposure is made. Other obstacles are found in the variety of colors and luminosity of the surfaces presented by different articles on display, each of which may require a different length of exposure in order to secure perfect results. Then there are often mirrors

and articles of glass, china, and metals with burnished surfaces that give more or less confusing reflections with which to contend.

However, some of the worst difficulties may be wholly or partly overcome. For instance, the cause of outside reflections is almost entirely due to the weaker light inside as compared with that outside of the window. The comparative darkness within acts as a foil, and, combined with the polished surfaces of the glass, produces a more or less perfect mirror in proportion to the difference in strength of the inside and the outside light. Therefore, it has been found that the best time to photograph window displays is at night by the light of the electric lamps within the windows. Then, if all lights and reflectors directly before the lens are suitably covered, or shut off in order to prevent halation (which is caused by the light being reflected from the glass of the negative into the gelatine film) the operation becomes a mere matter of correctly timing the exposure. This will vary from 15 to 30 minutes, according to the lightness or darkness of the objects of the display; the darker the goods, of course, the longer the exposure required. In exposures of such length, passing people or vehicles will not interfere with the picture, provided there is not a steady stream of them or they do not stop before the lens. Passing street cars, which have their light at about the same height, will cause a streak across the negative by reflection from the glass if behind the camera (or directly, if before it); hence, it is necessary to close the shutter or cover the lens while they are passing. This must be quickly done if any person or vehicle stops before the lens, which must be kept covered until they move on.

Incandescent electric light is the best for photographing; that from arc lights is too strong and glaring, and produces heavy and ill-balanced shadows and lack of detail in the high lights. All exposed lamps before or behind the camera should be either turned off or screened, for their direct or reflected light in the camera will produce fog, or halation.

The next best opportunities for photographing windows are during dawn or twilight—morning or evening. At these times, because there is no direct light, the light is well diffused, redu-

cing reflections to a minimum and making fairly good photographs possible.

Another device that has been used is the hanging of black-cloth screens from awning rods before the window, thus cutting off all objects that would otherwise be reflected. But this is inconvenient, as the cloth must be about three times the length of the window to avoid reflections from objects beyond the ends; besides, this plan requires an extremely wide angle lens, as the camera must be placed either within the cloth or just outside (the lens passing through a hole in the cloth), which, in either case, is too close to the window for an ordinary lens to take in all the view.

Another scheme is to elevate the camera and focus it downwards by means of the swing back and front. In this way most reflections may be thrown out of range, and what cannot be avoided will fall at the top of the plate over the main features of the display and thus interfere but little with the result.

47. Prevention of Frozen Windows.—During very cold weather, plate-glass show windows tend to become covered with frost or ice, greatly to the annoyance of the merchant and trimmer. While many plans have been suggested for the prevention of this trouble, they are not always successful.

Frosting is due to an unevenness in the temperature inside and outside the window. Air, of course, contains moisture at all times, but its ability to retain moisture increases with its temperature; therefore, when moisture-laden warm air comes in contact with a colder surface, its moisture is condensed by the lowering of its temperature and gathered on the colder surface. For this reason frosting can be prevented only by that arrangement which makes the temperatures on both sides of the glass equal.

To secure a comparatively even temperature on both sides of the glass, it is absolutely necessary that the window shall be enclosed, so that it will not receive any air from the interior of the store, which is always warmer than the window glass and is also laden with moisture.

In places where the division between the store and the window is comparatively air-tight, there is never any trouble from "sweat" or frost on the glass. If this precaution does not suffice, or if it is impossible to secure a complete separation between the air of the store and that of the window, outside ventilation must be provided by means of inlets and outlets for the air below and over the glass. This plan has always proved entirely satisfactory and has overcome all tendency of the glass to sweat. It has but one objection, namely, that the ventilators let in dust and dirt that are liable to be injurious to fine merchandise. This trouble may be overcome by placing in the ventilators sufficient thin gauzy material or raw cotton to stop and hold the particles of dust.

Several patented store fronts that solve the problem of proper ventilation for the show window are now manufactured. They consist of glass set in metal sashes so arranged as to provide sufficient air passages to ventilate the windows properly. Stores fitted with such fronts experience no difficulty whatever with their show windows no matter what the weather may be.

Temporary relief from frost is said to be afforded by applying to the glass washes of glycerine and water, alcohol and water, ammonia and water, or salt and water. A thin layer of a paste made of water, glycerine, and sugar in equal parts, with a small quantity of coumarin (which is a camphor derived from the Tonka bean), spread over the glass does not affect its transparency, but prevents the precipitation of moisture and frost. An electric fan so placed within the window as to send a constant current of air over the glass is said to prevent this trouble; and some trimmers have introduced electric heaters within the window for the purpose of drying out the air. However, general experience seems to indicate that the even-temperature plan is the only sure way.

48. Resilvering of Mirrors.—If a mirror, whether large or small, has to be resilvered, the trimmer can save much time and expense by doing the work himself. This is particularly true of large mirrors that cannot be packed and shipped conveniently.

A perfect resilvering solution sufficient for a glass 3 ft. $\times$ 6 ft. can be made as follows: Dissolve 12 grains of Rochelle salts, chemically pure, in 6 ounces of distilled water. Then dissolve 16 grains of nitrate-of-silver crystals in 1 ounce of distilled water. Mix these solutions and boil this mixture for 10 minutes, after which add sufficient distilled water to make 12 fluid ounces of the whole. Bottle and stand it in a cool place for 2 days, and then filter so as to have it ready for use. Also, dissolve 1 ounce of nitrate-of-silver crystals in 10 ounces of distilled water and add aqua ammonia very slowly until this solution begins to turn yellow; then add a mixture of 1 ounce of alcohol and 12 ounces of distilled water. Bottle this mixture and set it aside for 3 days; then filter it so that it will be ready for use.

The surface of the glass to be resilvered must be thoroughly clean, and the glass must be in the room in which the work is to be done for 5 or 6 hours before the resilvering operation, during which time the temperature should be maintained at or above 80° F. The work of resilvering is done in the following manner: First, run a thin line of tallow around the edge of the glass to prevent the silvering solution when poured from running off the edges, leaving one corner open temporarily. Next, flow over the glass sufficient distilled water to cover the whole surface, raise the glass so as to let the water drain off at the open corner of the tallow edge, and close the opening with tallow as soon as all the water has been drained off. Then immediately and quickly mix the contents of the two bottles of prepared solutions, flow the combined solution over the glass, and let it stand until dry. Of course, when pouring this solution on the glass, the glass must lie perfectly flat.

49. Fireproofing of Textile Fabrics.—If any kind of lighting is used in connection with a display, every precaution against fire should be taken. In such cases, a very good plan would be to fireproof all textile or decorative fabrics that are likely to come in contact with wires or lamps to be placed very near them. A good fireproofing composition that may be

applied to all kinds of fabrics without deteriorating them in any way can be made by mixing together 8 pounds of pure sulphate of ammonia, 25 pounds of carbonate of ammonia, 3 pounds of boracic acid, 1.7 pounds of pure borax, 2 pounds of starch, and 100 pounds (about 12 gallons) of water. The fabrics are simply steeped in a hot solution of this composition until they have become thoroughly impregnated, after which they are drained and dried sufficiently to enable them to be ironed or pressed like ordinary starched goods.

Another plan sometimes followed by window trimmers consists in dipping cheese cloth, bunting, raw cotton, and similar materials used for decorative purposes into a solution of tungstate of soda and allowing them to dry before they are used. Materials so treated will burn only slowly, if ignited, and without a blaze. Therefore, they will not develop sufficient heat, it is claimed, to set fire to surrounding woodwork or other combustible substances.

50. Waterproofing of Paper.—There are times in decorating when waterproof paper comes in very handy, as, for instance, when it is necessary to cover the floor or the sides of a show window in which a fountain is used. It is also useful as an under covering in a display window in which sod and plants that require watering are used, and can be employed to advantage for temporary exterior decorations, such as booths, floats, etc. Waterproof paper can be purchased from supply houses, but, if desired, the trimmer can render ordinary paper waterproof in the following manner: With a soft brush, coat both sides of the paper with a solution consisting of 1 part of gelatine and 1 part of glycerine dissolved in 4 parts of hot water; then immerse it in a mixture consisting of 1 part of a 40-per-cent. solution of formaldehyde and 5 parts of water; finally, remove the paper from this mixture and let it dry. In addition to being waterproof, paper thus treated is said to be impervious even to steam. Shellac or boiled linseed oil painted on both sides of paper will also enable it to shed water.

51. Plans and Value of Display Space.—In nearly all large department stores, the window trimmer in charge usually

keeps on hand a plan of all the display spaces, whether show windows or show cases, that come under his supervision. Such plans are generally drawn to a scale of 1 inch to the foot, and from them the trimmer is able to plan and prepare displays without resorting to the display space each time a change is contemplated. Fig. 18 shows the plan of the display space of a store located on the corner of two prominent streets. The windows, as well as the show case at the entrance, are numbered, thus permitting the trimmer to refer to them by number instead of in some inconvenient way.

Plans of this kind will also serve to give the trimmer a good idea of the value of each display space. Thus, referring to Fig. 18, it will be seen at a glance that window No. 4 is the most prominent, because it is on the corner. The next in importance are windows Nos. 1 and 3 and the show case, space No. 2, because they are at the store entrance. The windows then decrease in value from No. 5 to No. 10, the tenth window being of least importance because it is farthest away from the store corner.

A knowledge of the value of display spaces will help the trimmer to determine not only the kind of merchandise to display in them, but how frequently he should make changes. For example, as window No. 4 is the most prominent

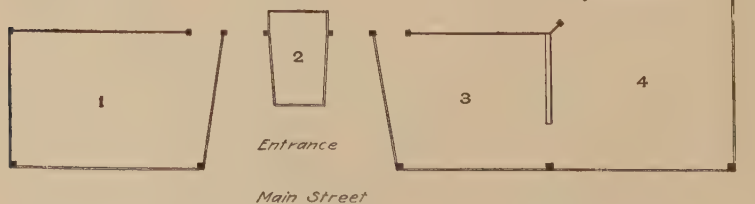


FIG. 18

in this department store, it is best adapted for the most important merchandise in season, as millinery, suits, furs, etc., and may be changed frequently. Windows Nos. 1 and 3 are suitable for dress goods, silks, laces, etc., and also may be changed often. The display case, space No. 2, is subject to daily change, and in it can be shown to advantage such merchandise as fancy neckwear, bric-à-brac, or some special article of merit that may be on sale, or, for that matter, any stock that is not large enough to make a display in a large show window. Windows Nos. 5 and 6, being nearest the corner window, can also be used for wearing apparel, but they would not have to be changed so often as the corner window. In windows Nos. 7, 8, 9, and 10, however, because they are rather far away from the corner, large articles, such as furniture, house furnishings, etc., can be displayed to advantage.

DISPLAY-RECORDING SYSTEMS

52. In some mercantile establishments, valuations are placed on the display spaces, and each department is charged for the time that it occupies the various spaces. When this valuation is fair, the decorating department will be able to show a profit at the end of the business year.

In other stores an account of all the expenses arising from display work is kept; and at the end of each business year, or, in some cases, every 6 months, the amount is divided among the merchandise departments pro rata, in proportion to the amount of business done by each. This plan, though apparently satisfactory to the concerns that use it, is hardly fair either, because some departments, for one reason or another, frequently receive more display than their volume of business warrants on this plan of the division of expenses. The general reason for this is that the managers of the store endeavor to push forward the slower departments in this way. The result, however, is unfair to some departments when it comes to the apportionment of the expenses of trimming.

In still other stores everything purchased for display is charged to the department for whose benefit the initial display is made. This is still more unfair, because much decorative

material is used over and over before it is finally worn out and discarded. Hence, it happens by this method that some departments will receive the benefit of much display materials that have been charged to other departments.

53. The accompanying form, however, shows a display-recording system that has been found very satisfactory to all concerned. Although it does not directly take into account the variable values of display spaces, it will be found that, owing to the constant shifting of displays, made necessary by the exigencies of business, a comparatively fair average of occupancy of the best medium and poorest display spaces will be maintained between the different departments.

For the form on which to keep the display record an ordinary blank book may be ruled as illustrated, allowing a couple of pages for each display space; or, if desired, the form may be ruled on sheets of paper or cardboard, one for each display space. The form for each window may be kept in the trimmer's room and posted daily, or each may be hung up at the back of the display space to which it belongs, and the facts of the display noted on it every time a change is made. In the first column are noted the dates when the space is trimmed with a new line of goods; the second column is for recording the names of the merchandise shown; and the third column is for recording the number of days each line occupies the space at each trimming. In the fourth column are noted any special facts about a display that it might be desirable to recall for future reference. Especially should be noted the special features that render any display distinctive and particularly strong. The facts of this column may be made useful, and be a valuable source of suggestions. If frequently referred to, it will prevent an undue repetition or a too marked similarity of displays. The last column, which is subdivided into four parts, is for making notes of the weather. At first thought this will seem unimportant as a matter of record, but it may be made to assist in securing an equity of display opportunity among the various departments. For instance, there are periods of unfavorable weather during which the departments occupy-

DISPLAY RECORD **SPACE: WINDOW No. 4**

Trimming Dates	Merchandise	No. of Days Displayed	Remarks	Weather*			
				C	F	R	S
Jan. 1	Muslin underwear.....	13	New Year's feature.....	4	8	I	
Jan. 14	House furnishings.....	8	Kitchen feature.....	3	4		I
Jan. 22	Trunks and bags.....	7	Lay figure on steamer chair.....	2	3	2	
Jan. 29	Carpets and rugs.....	11	Special sale.....	5	5		I
Feb. 10	Stationery and valentines.....	6	Valentine feature.....	I	4	I	
Feb. 16	Linens.....	5	Washington birthday feature.....		5		
Feb. 21	Bath towels and robes.....	8	Washington in bath robe (W B) ..	3	4		I
Feb. 28	Men's furnishings.....	5	Special sale.....		4		I
Mar. 5	Infants and misses' wear.....	9	Nursery scene.....	4	3	2	
Mar. 14	Women's clothing.....	7	Harp, St. Patrick's day feature ..	I	5	I	
Mar. 21	Silks.....	9	New spring styles.....	3	6		
Mar. 30	Millinery.....	13	Opening and Easter display	5	6	2	
Apr. 12	Silk waists.....	6	New spring styles.....	2	2	2	
Apr. 18	Men's neckwear.....	5	New spring styles.....	I	4		
Apr. 23	Women's neckwear.....	6	New spring styles.....	I	I	4	
Apr. 29	Silk skirts.....	7	Special sale.....	I	5	I	
May 6	Books.....	6	Special sale.....		6		
May 12	Stationery.....	8	Heraldry feature.....	2	5	I	
May 20	Boys' clothing.....	7	Sailor scene.....		7		
May 27	Millinery.....	6	Decoration day feature.....	2	4		
June 1	Organdies and lawns.....	12	Summer-girl feature.....	3	8	I	
June 12	Men and boys' hats.....	8	Special sale.....	2	6		
June 20	Summer upholstery.....	8	Room scene.....	I	6	I	
June 28	Hosiery.....	4	Special sale.....		4		
July 2	Sporting goods.....	6	Fourth of July feature.....		5	I	
July 8	Men's negligee shirts.....	12	Special sale.....	4	6	2	
July 20	Straw hats.....	11	Latticework of braids.....	3	8		
July 31	Shoes.....	6	Special sale.....		6		
Aug. 6	Organdies and lawns.....	9	Special sale.....		7	2	
Aug. 15	Muslin underwear.....	7	White sale.....		7		
Aug. 22	Bicycles and sporting goods	8	Lay figure riding a wheel.....	2	6		
Aug. 30	Men's clothing.....	5	Labor day feature.....	I	3	I	
Sept. 4	Linens and bath towels.....	6	Special sale.....	2	4		
Sept. 10	General upholstery.....	8	Special sale.....		8		
Sept. 18	Women's suits and millinery.....	12	Fall-opening feature.....	2	8	2	
Sept. 30	Boys' clothing.....	6	New fall styles.....		4	2	
Oct. 6	Infants and misses' wear.....	6	New fall styles.....	2	4		
Oct. 12	Wool dress goods.....	9	New goods.....	3	3	3	
Oct. 21	Silks.....	8	New goods.....		6	2	
Oct. 29	Men's furnishings.....	7	Special sale.....	3	4		
Nov. 5	Carpets and rugs.....	10	Special sale.....	2	6	2	
Nov. 15	Furniture.....	8	Special sale.....	I	3	4	
Nov. 23	Linens.....	7	Thanksgiving feature.....		4	3	
Nov. 30	Men and boys' hats.....	7	Special sale.....	I	3	3	
Dec. 7	Women's clothing.....	5	Special sale.....	2	3		
Dec. 12	Men's knit underwear.....	4	Special sale.....		4		
Dec. 16	Fancy goods.....	10	Christmas display.....	2	6		2
Dec. 26	Shoes and rubbers.....	6	Special sale.....	3	2		I

*Explanation of weather notes: C, cloudy; F, fair; R, rain; S, snow. The numbers indicate the number of days each kind of weather prevailed.

ing the display spaces derive little benefit. Consequently, these departments deserve extra consideration later on. This column shows when such conditions prevailed and how much consideration the departments should get.

54. In this system the unit of display time is the day. Hence, to ascertain the relative amount of display received by each department, it is only necessary to sum up the number of days each was on display during the year, or half year.

For sake of illustration, imagine a store having ten display spaces, as shown in Fig. 18, chargeable to the departments that have occupied them during the period (say, 1 year) for which a settlement is desired. A year has about 310 business days, the rest being Sundays and holidays; but as the number of the latter varies in different localities, and also as observed by different firms, the year for this sample calculation will be assumed to have 365 days. As each window would be on display 365 days, the 10 windows are equivalent to 3,650 display days. Assuming, for convenience of calculation, that the total cost of decorations for the year, including labor and materials, has been \$7,300, it will be seen that the average cost of maintaining the displays has been \$2 per day per space.

On referring to the sample record, it will be found that muslin underwear was on display in this space for 20 days. Suppose that the amount of display this department received in each of the 10 display spaces averaged the same number of days; then, the muslin underwear was on display during the year the equivalent of one space for 200 days. Hence, as the calculation has shown the cost of display to have been \$2 per day, the muslin-underwear department should be charged with \$400 as its equitable share of the total cost of the year's displays. In the same manner the fair share of each of the other departments may be ascertained.

Besides affording an equitable means of dividing the costs of display work, this system is invaluable as a means of settling disputes between the heads of the merchandise departments and the trimmer or other official having the responsibility of distributing the use of the display spaces.

ILLUMINATION AND MOTION IN DISPLAY

INTRODUCTION

1. In these days of keen competition, a well-lighted show window is a necessity. Displays of merchandise are observed as much in the evening and night and on dark days as they are at any other time, and, for this reason, stores provided with well-illuminated show windows have a distinct advantage over those having windows that are poorly lighted. Of the three means of lighting—namely, by oil, gas, and electricity—electricity finds the most extensive use. Indeed, oil is seldom if ever used for lighting show windows, except in towns that have no gas or electric supply. Gas, too, finds little use, because electric lights in the form of incandescent lamps can be placed to better advantage than can gas lights and are not so liable to cause fires. It can be truthfully said that in the large towns and cities electric lights take precedence over gas lights for the illumination of show windows. Their superiority cannot be questioned, for besides being the most suitable for window lighting, they can be used to advantage in special backgrounds and displays, it being possible to put them in places where gas or oil lights would be out of the question. Another use for electricity in the display window is to operate the mechanical devices that are sometimes installed to attract attention. Of course, there are other means of keeping such devices in motion, and some of them will be considered; nevertheless, electrically driven devices seem to be the most convenient and satisfactory.

2. In view of the foregoing facts, it seems necessary to explain some of the methods and devices employed for both electric lighting and the electric propulsion of mechanical display devices, as well as to make clear some of the terms used in connection with electricity. These subjects are therefore given attention in this Section. The instruction matter relating to electrical devices and terms, however, is merely intended as an aid to the trimmer in the work of installing window-display devices that require the use of electric lights or electric motors for their proper exhibition or operation. It does not cover the broad field of interior wiring, nor is it sufficient to train a trimmer to become an interior wireman; nevertheless, it will help him to understand the general principles involved in the erection and operation of electrical devices that may come under his care and will give him a good idea of how to install simple mechanical devices and to illuminate displays.

The window trimmer is not usually an electrician, and since the fire-insurance regulations regarding the installation of electric wires and electric devices must be strictly complied with if it is desired to get insurance on a building that is wired for electricity, the permanent electric installation work in the show window is usually done by a professional wireman. In some cases, a wireman also attends to the electric wiring of a display, and in other cases the trimmer does the work. In any event, wiring that is installed in an irregular manner and does not conform to the insurance regulations may be the cause of the non-payment of insurance if a fire occurs. It is therefore essential that great care be exercised in the installation of electric displays. The trimmer should possess a copy of the National Electrical Code, which is published by the National Board of Fire Underwriters, for his use as a guide, and the Board's inspection and approval of the work should be obtained when necessary. A copy of the Code may be obtained without cost through any local fire-insurance agency.

ELEMENTARY ELECTRICAL PRINCIPLES

ELECTRICAL UNITS

3. Electricity is the name given to the cause of all electrical phenomena. Although its exact nature is not known, many of its effects are known, and methods for controlling and utilizing it are well understood.

4. Volt.—An *electromotive force*, or *electric pressure*, is set up in several ways. Among the methods of more commercial importance are; (1) by the passing of wires mounted on a revolving core across the poles of a magnet, as in a *dynamo*, and (2) by the chemical action set up between two plates in a vessel containing a chemical solution, as in an *electric battery*. The unit of electromotive force is the **volt**.

If the wires in a dynamo or the plates in a battery were connected together by other wires, the electromotive force, or electric pressure, set up at the terminals of the generating device would force an electric current through the *circuit*, which consists of the connecting wires and either the dynamo or the battery, depending on which device is used.

If the interior of a tank containing air under pressure were connected to the atmosphere by means of a pipe and a valve, the air pressure would force a current of air through the pipe when the valve is opened. The air pressure is to a certain extent analogous to the electromotive force of the electric circuit.

5. Ampere.—The *rate of flow of electricity* is expressed in terms of the unit **ampere**. A certain group of incandescent lamps is said to take a current of 3 amperes from the line wires of an electric circuit across which exists an electric pressure of 110 volts; that is, an electric pressure of 110 volts forces a current of 3 amperes through the group of lamps.

6. Ohm.—If a very long pipe fitted with a valve were connected to a tank containing air under pressure and the valve in the pipe were opened, air would flow through the pipe from the tank to the atmosphere. There would be some friction between the moving body of air and the inside of the pipe, and this friction would retard the flow of the air. The air would not rush out of the tank at as high a rate of flow as would be the case if only a short pipe of the same size were used. Some of the air pressure is expended in forcing the air through the pipe.

In the case of an electric circuit, the main wires and the devices connected to them offer resistance to the flow of electricity. A smaller current will therefore flow through a circuit, which consists of connecting wires and a device, when the device is of high resistance than when it is of low resistance.

All substances offer some resistance to the flow of electricity through them. Metals usually offer comparatively little resistance and are therefore called *conductors*; wood, porcelain, glass, rubber, and other substances offer a high resistance, and are for this reason called *non-conductors*, or *insulators*. The unit of electrical resistance is the **ohm**. The carbon filament of a 16-candlepower incandescent lamp has a resistance of about 220 ohms when the lamp is burning. The resistance of most substances changes if the temperature of the body changes, but not all in the same manner, because some are better conductors when hot than when cold and others are poorer.

7. Watt, Kilowatt, Watt-Hour, and Kilowatt-Hour. The electrical unit of power is the **watt**. The larger unit of electrical power, the **kilowatt**, is equal to 1,000 watts. A horsepower is equal to 746 watts, and the kilowatt is therefore equal to $1,000 \div 746 = 1.34$ horsepower. To find the power in watts of a circuit in which the current is in one direction, that is, a direct-current circuit, multiply the current in amperes by the electric pressure in volts. If a carbon-filament 16-candle-power incandescent lamp takes $\frac{1}{2}$ ampere from a 110-volt circuit, electrical energy is being expended at the rate of $110 \times \frac{1}{2} = 55$ watts, or $55 \div 1,000 = .055$ kilowatt.

The unit of electrical work is the **watt-hour**. The larger unit of electrical work is the **kilowatt-hour**. The electrical work expended on a circuit is equal to the product of the average value of the kilowatts and the number of hours that the current is used. If the lamp just mentioned burned 2 hours, the work would be $(55 \div 1,000) \times 2 = .11$ kilowatt-hour.

8. Relation of Electrical Units.—The relation of the values of volts, amperes, and ohms in a direct-current circuit may be expressed by a law known as **Ohm's law**, which is as follows:

$$\text{amperes} = \frac{\text{volts}}{\text{ohms}}$$

A pressure of 1 volt will force a current of 1 ampere through a circuit having a resistance of 1 ohm. If the hot resistance of a lamp is 220 ohms and the electric pressure of the circuit is 110 volts, the current through the lamp will be $110 \div 220 = \frac{1}{2}$ ampere.

DEFINITIONS OF ELECTRICAL TERMS

9. Direction of Flow of Electricity.—It is not known definitely how or in what direction electricity flows through a wire. For convenience, it has been agreed that the electrical condition of one of the terminals of a dynamo or a battery, called the *positive terminal*, is such as to cause a flow of electricity from the positive terminal through the wires of the circuit outside of the generating device to the other terminal of the device, called the *negative terminal*.

A **direct current** is one in which the direction of the flow of the electricity is constant. A battery furnishes a direct current. A dynamo of one type furnishes a direct current, and a dynamo of another type, called an *alternator*, furnishes an **alternating current**, in which the electricity flows alternately in opposite directions.

10. Cycle, Alternation, and Frequency.—The alternating current reverses in its direction periodically. The cur-

rent starts from zero, increases to a maximum in one direction, decreases to zero, reverses in direction, increases to a maximum value in the new direction, then decreases to zero, and keeps repeating this series of changes as long as the current exists in the circuit. A **cycle** is the complete series of changes that occurs in an alternating current, such, for instance, as that just noted, where the first point is taken when the current is just about to start in a certain direction and the last point is taken after the current has passed through a series of changes and is again about to start in the same direction as before.

An **alternation** is one-half of a cycle.

The **frequency** of an alternating current is the number of cycles that occurs in 1 second. The standard commercial frequencies are twenty-five for power circuits and sixty for either power or lighting circuits.

11. Circuits.—A **circuit** is a path composed of a conductor, or of several conductors joined together, through which electricity flows from a given point, along the conducting path, and back again to its starting point.

A circuit is *broken*, or *open*, when its conducting elements are disconnected in such a manner as to prevent the electricity from flowing.

A circuit is *closed*, or *complete*, when its conducting elements are so connected as to allow the electricity to flow.

A circuit in which the conductors have come into contact with the ground, or some conductor leading to the ground, is said to be a *grounded circuit*, and the contact is called either an *earth* or a *ground*.

A path of low resistance across the terminals of a battery or a dynamo is called a *short circuit*. Two grounds, one on each side of the circuit, may produce a short circuit.

An *external circuit* is that part of a circuit which is external to the electric source.

An *internal circuit* is that part of a circuit which is included within the electric source.

In the case of a cell of a battery, the internal circuit consists of the two plates and the chemical solution, or *electrolyte*; the

external circuit is any conductor connecting the free ends of the plates.

12. Series Connections.—Devices are **connected in series** when they are so placed in the circuit that the electricity flows successively through all the devices. In Fig. 1, the five incandescent lamps *a*, through one after the other of which the electricity flows, are connected in series in the *branch circuit b*. This circuit may be connected to the *main circuit c* by means of a *single-pole switch d*, which is a device that will open a branch circuit by disconnecting one wire of the branch circuit from one of the main wires or that will close the branch circuit by connecting the branch-circuit wire to the main wire.

The incandescent lamps of the type usually installed for general illuminating purposes are designed to be connected directly across the circuit. Small display lamps designed for

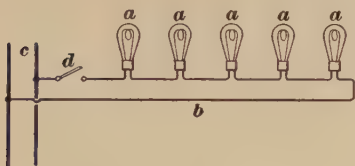


FIG. 1

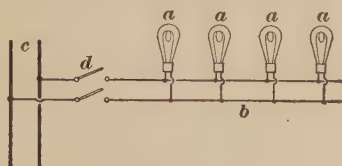


FIG. 2

low voltage are, however, often used on 110-volt circuits by connecting several lamps in series and then connecting the group of lamps across the circuit, as shown in Fig. 1. The proper voltage for the lamp is usually marked on the lamp.

The number of volts required by each lamp divided into the value of the voltage of the line will indicate the number of lamps that must be connected in series to make up the group. For example, if each lamp in Fig. 1 requires 22 volts for proper lighting and the electric pressure of the line is 110 volts, the number of lamps connected in series should be $110 \div 22 = 5$, as indicated.

In order to prevent lamps from burning out or poor lighting, great care should be taken to see that the individual lamps or the groups of lamps to be connected to a circuit have suitable voltage ratings.

13. Parallel, or Multiple, Connections.—Devices are **connected in parallel, or multiple**, when each device acts as a separate path to convey electricity from one side of the circuit to the other. In Fig. 2, each of the four lamps *a* offers a separate path for the electricity to flow from one side to the other of branch circuit *b*. The main circuit *c* is connected to the branch circuit *b* by means of the *double-pole switch d*. This type of switch connects both branch wires to both main wires or disconnects them from these main wires.

APPARATUS USED FOR DISPLAY PURPOSES

INCANDESCENT LAMPS

14. As has been stated, **incandescent lamps**, of which there are many forms, are used almost exclusively for the illumination of show windows in places where an electric current is available.

Fig. 3 shows in outline an incandescent lamp and a section of an Edison key socket. The name of each part is indicated in the illustration. The lamp consists essentially of a long, thin, high-resistance conductor, called the *lamp filament*, mounted inside of a glass bulb from which the air is exhausted. An electric current heats this filament to incandescence; that is, until it glows with heat. If the filament were so heated in open air, it would almost immediately burn up; but in a vacuum the lamp will glow, or burn, for a long time without losing much of its light-giving power. The length of time that a lamp will burn before losing over 20 per cent. of its light-giving power is commonly called its *life*. The average life of an ordinary incandescent lamp is from 500 to 700 hours.

One terminal of the lamp filament is connected to the outer brass shell of the lamp base, and the other terminal is connected to a brass centerpiece at the bottom of the base, this contact piece being insulated from the outer shell. When the lamp is screwed into the socket, the centerpiece presses on a contact

piece at the end of the contact spring of the socket. This spring is insulated from the rest of the socket and is connected directly to one of the lamp wires leading from the socket to the wiring system. The key contact, when turned on, makes connection between a spring contact connected to the other lamp wire and the lower part of the screw contact in which the lamp base is screwed. Connection is then completed through the socket and the lamp, and the lamp is illuminated. When the key socket is turned off, the circuit is opened between the spring and the screw contact, and the lamp is dark.

Sockets are also made without key contacts. Such sockets are used extensively for electric signs and display work. Current is turned off or

on a group of lamps in these keyless sockets, or *lamp receptacles*, as they are sometimes called, by means of a switch.

The filament of the ordinary incandescent lamp is made of *carbon*, but lamps having filaments made of the metal called *tungsten* are coming into extensive use. Tungsten-filament lamps produce a given amount of light at a lesser rate of consumption of electrical energy than do the carbon-filament lamps. In Fig. 4

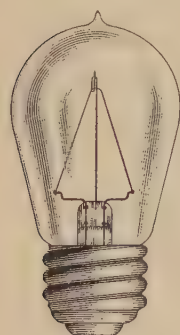


FIG. 4.

is shown a small tungsten sign lamp. Incandescent lamps may be obtained in many varieties of size, shape, and candlepower.

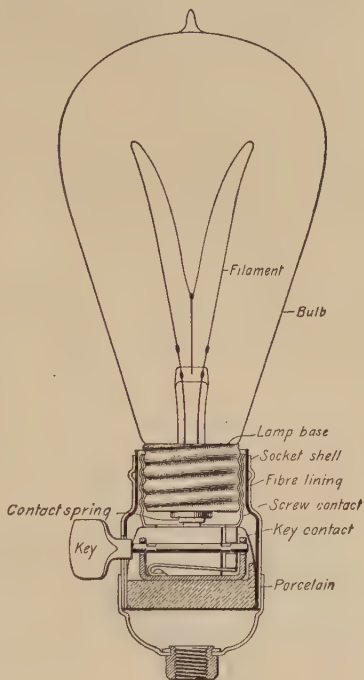


FIG. 3

15. Linolite lamp.—A later type of incandescent lamp that is used for show-window illumination is the **linolite lamp**.

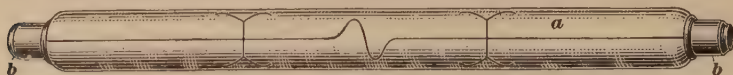


FIG. 5

A lamp of this type is shown in Fig. 5. The filament *a*, which is made either of carbon or of tungsten, is mounted in the center of a straight glass tube about 1 foot long. The lamp terminals *b* are at the ends of the lamp.

REFLECTORS

16. A great variety of forms of reflectors may be obtained, to suit the conditions of show-window or display work. Reflectors are usually placed in the upper part of the show window, so that the light from the lamps with which they are fitted will be reflected down on the display.

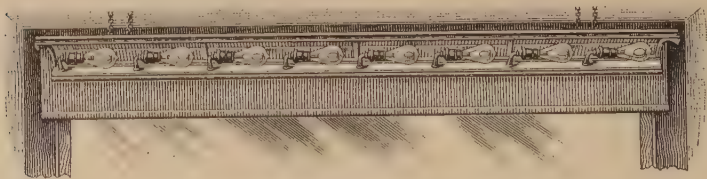


FIG. 6

In Fig. 6 is shown a reflector arranged for incandescent lamps of the ordinary bulb shape. The illustration also indicates the position of the reflector relative to the window frame and the window shade.

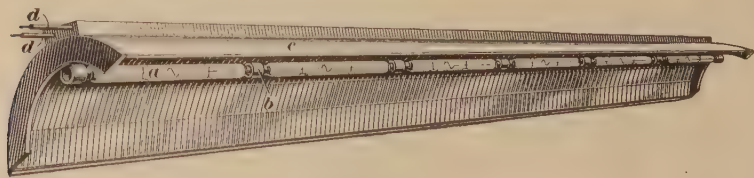


FIG. 7

In Fig. 7 is shown a style of reflector used for linolite lamps. Six linolite lamps *a* are placed in position in the sockets *b*.

which are mounted in the reflector *c*. These sockets are connected by wires *d* that pass through spaces reserved for them in the reflector or in the metallic support for the lamps, as indicated.

SWITCHES

17. As already inferred, **switches** are devices for readily opening or closing electric circuits. For the control of a circuit

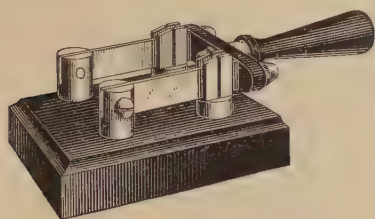


FIG. 8

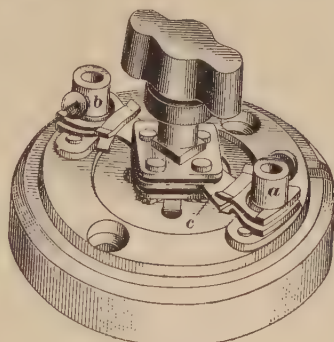
of moderate voltage that supplies current to devices that require not more than 660 watts, a *single-pole switch* may be used, as indicated in Fig. 1; otherwise, a *double-pole switch* is usually required. Fig. 8

shows a double-pole switch of the *knife-blade type*, which is the kind that is usually installed when it is necessary to control a large current.

18. **Snap Switches.**—In show windows, **snap switches** are generally used for both lighting and small-motor circuits.



(a)



(b)

FIG. 9

A *single-pole snap switch* is illustrated in Fig. 9, (a) showing an exterior view and (b) an interior view. As indicated in view (b), the circuit wires are connected to binding posts *a* and *b*, which also carry the switch contact pieces. When the switch is

closed, that is, turned to on-position, as indicated, the blades of the crosspiece *c* rest against the switch contacts and thus close the circuit. When the switch is turned to off-position, the crosspiece *c* is moved away from the terminal contact pieces and the circuit is opened. A spring in the switch causes the crosspiece to move suddenly and thus *snap* the switch open or closed.

19. Wall Switch.—In Fig. 10 is shown a **single-pole flush wall switch** of the push-button type, (a) being an

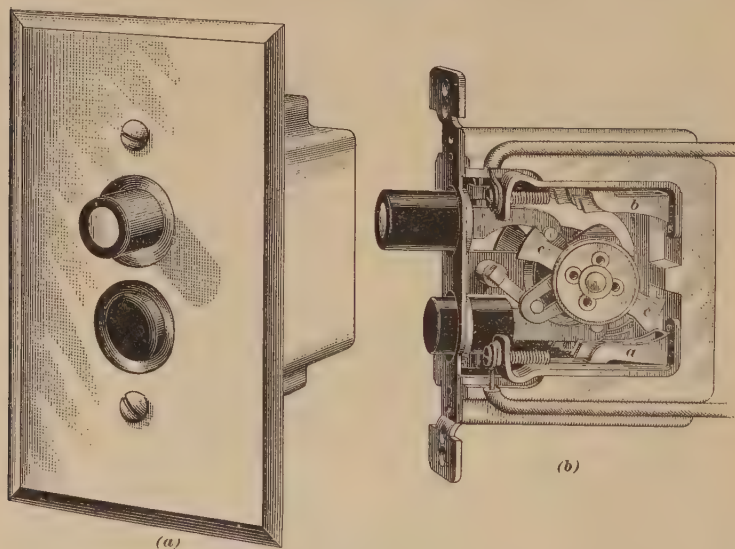


FIG. 10

exterior view and (b) an interior view. When the light button is pushed in, the crosspiece *c, c* swings around and makes contact with the clips *a* and *b*, and at the same time the dark push button flies out. Pushing in the dark button causes the crosspiece to snap to the off-position and the light button comes out. In each case, a coiled spring, not shown, makes the action quick and positive, so that there is little sparking.

CUT-OUTS

20. An **automatic cut-out** is a device for automatically opening an overloaded circuit. The circuit-interrupting device of the ordinary type of cut-out is in the form of a strip of metal, and is known as a *fuse*. This fuse is connected in series with the circuit and will melt and thus open the circuit in case there is an excessive current.

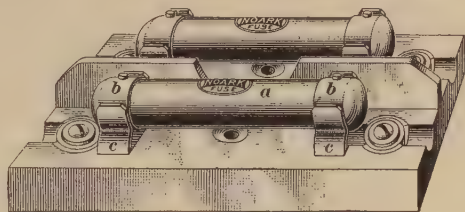


FIG. 11

The fuse thus protects the wiring and other devices connected to the circuit from damage that might ensue if a dangerously large current were allowed to exist indefinitely. In the modern type of enclosed fuse, as shown in Fig. 11, the fusible strip is enclosed in a tube *a* made of insulating material and packed with a powder that aids in suppressing the electric flash, or *arc*, that occurs when the fuse melts. The fuse terminals *b* fit into clips *c*. A small wire in parallel connection with the main fuse also melts when the main fuse blows, and this action is indicated by the blackening of a small spot near the center of the enclosing tube. This serves as a convenient means of detecting a burnt-out fuse in a circuit.

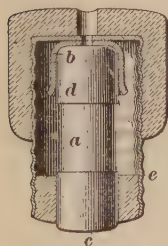


FIG. 12

21. The enclosed type of fuse has also been adapted to the *Edison fuse plug*, as shown in Fig. 12. In this device, the cartridge *a* containing the fuse is pushed through the hole in the bottom of the plug and is held in place by a clip *b*. The path of the current through the fuse is by way of contacts *c*, *d*, and *e*. After a fuse has blown, a new cartridge may be inserted in the plug. Such plug fuses are intended for service in the type of *fuse block* shown in Fig. 13. The plugs screw into receptacles and complete the connections of the branch circuits to the mains.

22. Ceiling Rosette.—A ceiling rosette is a form of cut-out. It is commonly used to connect a drop lamp to a

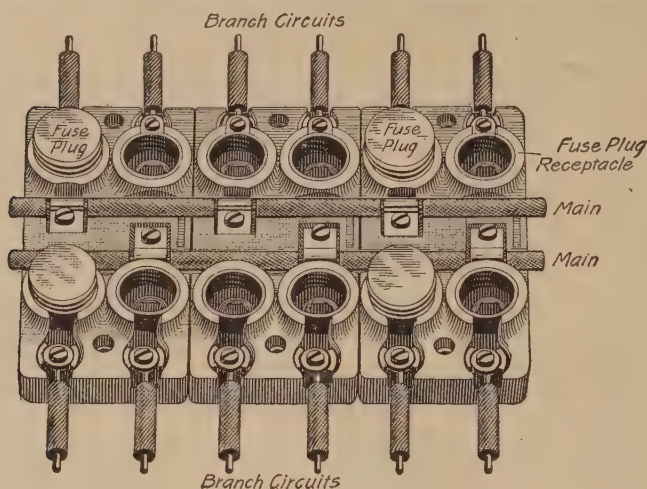


FIG. 13

branch circuit. The rosette may be provided with fuses that are placed between the lamp circuit and the branch wires, but fuseless rosettes are preferable if proper protection can be obtained by the branch cut-out. If a rosette with fuses is to be installed in show windows, the rosette should be of the type

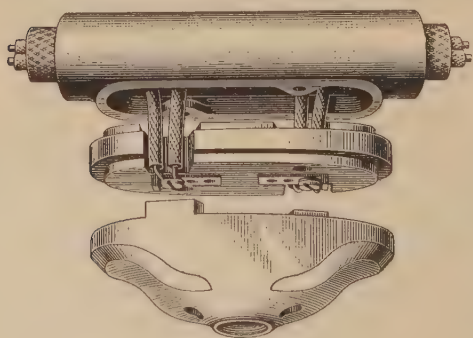


FIG. 14

using enclosed fuses in order to avoid danger of fire in case of a short circuit. An open fuse causes a momentary arc when it melts, and, even if somewhat protected by the cover of the rosette, it may under some conditions start a fire. Care should

always be taken when installing rosettes to place them at a distance from any inflammable material.

In Fig. 14 is shown a type of *conduletto cord rosette*. This rosette is of the fuseless type and is used in installations in which the wires are run in iron pipes called *conduits*. When an armored flexible cord is used to support the lamp, a knot is tied at the end of the cord that is within the cover. The knot serves to support the weight of the cord and lamp and in this way relieves the connections of this stress.

23. Floor Outlet Box.

In Fig. 15 is shown a **floor outlet box**, which is a device used to conduct wires safely to a desk or to a display device. The insulated iron pipe, or conduit, containing the circuit wires enters the box at *a*, and

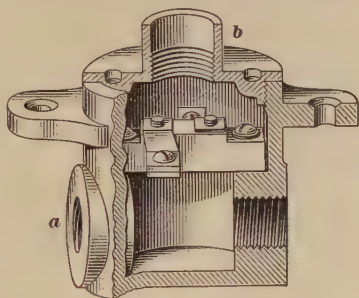


FIG. 15

the wires are connected to terminals within the box. The branch circuit wires are also connected to these terminals, and the branch wires pass up through a pipe screwed into the cover at *b*.

Many forms of outlet boxes are to be had. Some of them are provided with a plug arrangement that completes the circuit when a plug is inserted in the box. Often a keyless socket, or lamp receptacle, is attached to the wall or baseboard, and a plug to which an armored flexible cord is attached may be connected to the socket by screwing in the plug.

BATTERIES

24. Electric batteries are often used in show windows to operate small electric devices, such as bells and window tappers, and moving devices that require only a very small current. The use of such batteries is in general not recommended when a constant supply of current is required, because a battery under such conditions will soon become exhausted. *Dry batteries, wet batteries, and storage batteries* may be employed.

25. Dry batteries and wet batteries are called *primary batteries*. They produce an electromotive force across their terminals when they are set up with the proper plates and chemicals. The dry battery, one of which is shown in Fig. 16, is often the more convenient for show-window work. The enclosing can *a* of this battery is of zinc, and to it is connected the negative terminal. The positive terminal is mounted on the top of the carbon rod *c*. This can has a porous lining *p* saturated with an electrolyte, and next to the lining is placed a paste *d*. The space *m* between the carbon rod and the layer *d* is filled with a chemical substance that assists in the action of the cell.



FIG. 16

26. The storage battery, which is sometimes called a *secondary battery*, usually consists of several prepared lead plates, which are divided into a positive group and a negative group, and an electrolyte of dilute sulphuric acid, all enclosed in a large jar or tank. To charge a battery of this kind, current from a dynamo is forced through it from the positive terminal to the negative terminal. Chemical changes are set up, and if the battery is then disconnected from the dynamo and connected to some device that requires current for its operation, the battery will supply the current and the electricity will flow from the positive terminal through the external circuit to the negative terminal. When the storage battery becomes exhausted, it may again be charged.

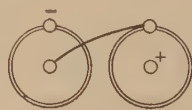


FIG. 17

27. In Fig. 17 two cells of a battery are shown in *series-connection*. The external circuit is connected to the free negative (-) and positive (+) terminals. The positive terminal of one cell is connected to the negative terminal of the next cell.



FIG. 18

In Fig. 18 the two cells are shown in *parallel connection*. All the positive terminals are connected

together and to one wire of the external circuit, and all the negative terminals are connected together and to the other wire of the external circuit. Cells are usually connected in series unless the external circuit is of very low resistance.

MOTORS

28. Electric Motors. — For the operation of display devices in show windows **electric motors**, as has been inferred, find considerable use. Some types of motors, called *direct-current motors*, are intended for operation on direct-current circuits only, and motors of another type, called *alternating-current motors*, will operate on alternating-current circuits only. Still another type of motor, known as the *alternating-current series-wound commutator motor*, will operate on either a direct-current or an alternating-current circuit. When selecting a motor, care should be taken to see that it is of sufficient size to operate the moving device without undue heating; also, it is well to make sure that the kind of current, the voltage, and the frequency for which the motor may be designed correspond with the conditions in either the direct-current or the alternating-current circuit that is available for power purposes.

29. An ordinary *fan motor* may be used to drive display devices if the fan is removed and a small pulley is put in its place. However, a small motor similar to the one shown in Fig. 19, which is designed especially for work of this kind, will be found more suitable. Most small motors are connected to a lamp socket by means of an armored flexible cord and a *plug*, which is a device similar in form to the base of an incandescent lamp. Turning on the switch that controls the socket will start the motor. Some small motors have a length of high-resistance wire placed in

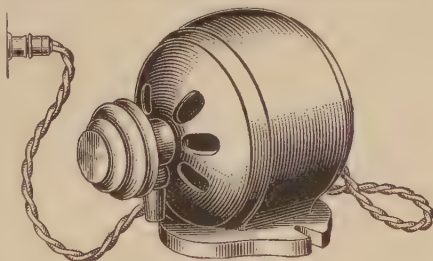


FIG. 19

their bases. The amount of this resistance that is in circuit can be adjusted by a switch arm, and the speed of the motor can thus be regulated. If a large motor requiring a special circuit and a starting resistance box, or *rheostat*, is to be installed, an electrician should supervise the work.

30. Electric motors should be kept clean. The oil wells must not be allowed to become empty, and the brushes and the *commutator*, that is, the part of the device on which the brushes bear, must be kept in good condition. A piece of cloth should be used in cleaning the commutator, and if the brushes do not bear on the commutator properly, it will be necessary to pass a piece of fine sandpaper between the brush and the commutator, with the smooth side against the commutator. By moving the paper back and forth on the commutator, the end of the carbon brush will be fitted to its surface.

Among the causes for sparking between the brushes and the commutator of electric motors are the following: An overload on the motor; brush worn too short; weakened brush springs; rough commutator; high or low bars in the commutator; and a defect, such as an open circuit or a short-circuit in the windings of either the *armature*, which is the revolving part, or the *field coils*, which are the magnet windings on the stationary part. In the case of an overload, the load should be reduced or a larger motor substituted. If the brushes are badly worn, they should be replaced. If the brush springs are weak, they may be readjusted so as to give greater pressure on the brushes, or the old springs may be replaced by new ones. A rough commutator may be smoothed by applying fine sandpaper to the surface of the commutator while it is in motion. If an electric motor has the other defects mentioned, it should be sent to a repair shop.

31. Improvised Motors.—In the absence of electric motors, it is frequently necessary to resort to other devices for operating mechanical displays. Following are shown several motors that can be built quickly by the window trimmer. These devices are meant only for temporary use, but the trimmer possessing a mechanical turn of mind should be able to

devise other motors from the ideas given, or at least construct the ones shown in such a way that they can be used indefinitely. For example, instead of following the ideas suggested in regard to bearings, he can make use of Babbitt or brass bearings; instead of making up pulley wheels himself, he can have them made at a factory or purchase them from regular gear makers; and so on.

32. Fig. 20 illustrates a simple motor, known as a **weight motor**, that can be made by the window trimmer. It consists

of a windlass, two pulleys, a belt, and a weighted rope. As shown in the illustration, the motor is arranged so as to revolve a vertical display device. This motor is run by the weighted rope, which is wound around the drum *a* of the windlass and passed around an overhead pulley and through a hole *d* in the floor into the store basement. Motion is imparted to the display device by a belt *b*, which passes around the drum and a pulley *c* attached to a shaft that connects with the device. The speed and the

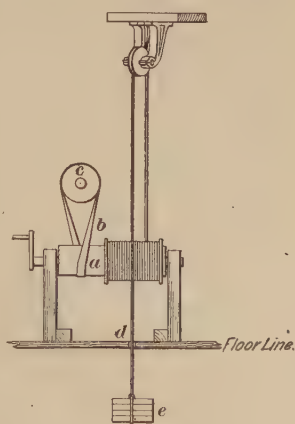


FIG. 20

power of this motor are governed by the size of the drum over which the rope is wound and the weight attached to the rope. To double the length of time that the motor will run the display device with one winding, the rope passing over the upper pulley can be strung through a second pulley to which the weight is fastened and the end of the rope then secured to the basement ceiling. To increase the length of time still more, more pulleys can be used. When this is done it will of course be necessary to increase the weight. This, however, is not absolutely necessary, because the rope can be rewound on the drum whenever required. In winding the rope, the driving belt will have to be removed from the pulley *c* so as not to revolve the display device backwards.

To revolve a platform or a horizontal device, another belt can be run from the shaft to which the pulley *c* is attached to a pulley attached to a shaft connected to the platform. Another plan would be to fasten the supports of the windlass drum to a wall or a permanent background, instead of to the floor as in the illustration. This will cause the drum to stand vertically and thus allow the belt *b* to be run direct to a pulley attached to a driving shaft located underneath the platform to be revolved. Instead of an overhead pulley over which to pass the driving rope, it will be necessary in this case to place the pulley at the side of the show window.

The windlass can be placed either outside a window or between a permanent background and a temporary one built to conceal the driving machinery. In either case, it will be necessary to bore a hole *d* in the floor in order to pass a rope through to the basement to receive the weight *e*.

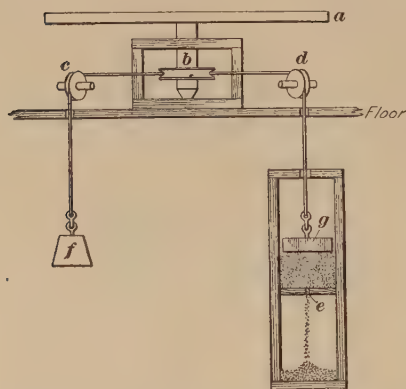


FIG. 21

three pulleys, a rope, two weights, a sand box, and some sand are required. As shown in the illustration, the motor is arranged so as to revolve a platform *a*. Motion is imparted to the platform by the rope, which runs part way around the pulley *b* attached to the shaft that supports the platform and over the side pulleys *c* and *d*. The rope is made to move by the weight *g* in the sand box, which is located in the store basement. This weight is much heavier than the weight *f*, which is used simply to keep the rope taut and thus prevent it from slipping as it turns the pulley *b*. The purpose of the sand box is to regulate the speed. It is divided into two equal parts by a partition containing a hole *e*. Sand is placed in the upper compartment, and as it trickles through the hole into the

33. Another simple weight motor is illustrated in Fig. 21. For this motor,

lower compartment, the weight g descends and thus moves the display device. This motor can be made to run a vertical display device by simply arranging the pulley and shaft b in a horizontal position and placing the other pulleys c and d so that the rope will move the pulley b . Whether arranged to run a vertical or a horizontal device, two holes must be bored in the floor to permit the ropes to pass into the basement to receive the weights.

34. Fig. 22 illustrates a **water motor** that can be easily constructed. A barrel fitted with a faucet, as shown, is placed on a table, and on the floor in front of it is stood another barrel, which is connected with a drain pipe. On the rim of the lower barrel is placed a water wheel a , which is prevented from sliding out of place by two staples placed over its axle and driven into the barrel staves. The wheel itself is nothing more than a boy's express-wagon wheel, on the spokes of which are fastened small pieces of tin in the shape of buck-



FIG. 22

ets. To one end of the water-wheel axle is attached a small pulley b . This pulley is connected with belts, which may be of leather or of sash cord, to other pulley wheels arranged in a framework that is screwed to the floor. The manner in which this motor can be connected to a display device should be readily seen from the illustration. Water for the wheel is supplied by a hose, as shown, although the barrel can be filled by means of pails or buckets, if necessary. The purpose of the barrel and faucet is to regulate the speed of the motor. This could not be done satisfactorily if the water to run the wheel came direct from a hose attached to a water main, the pressure of which is often unsteady.

35. Another style of water motor is illustrated in Fig. 23. Any tinner can soon construct a circular box about a wheel *a* and fit it with a drain pipe *b*. The blades *c* of the wheel are easily bent out of sheet iron and screwed or soldered on the edge of the wheel. The water flow is supplied by hose to the nozzle *d*. This motor can be made almost as well without any outside assistance by simply constructing a wooden box around the wheel and over a sink. The waterwheel flanges can be made

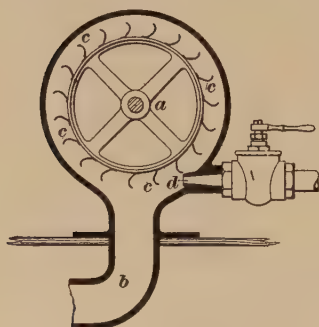


FIG. 23

of the bowls of cheap tablespoons; or, small tin cups can be fastened to the edge of the wheel and the water made to overshoot, thus securing additional power by the added weight of the water held in the cups on the downward motion.

36. For any of the improvised motors just described, pulleys with **V** grooves will be found superior to those with **U** grooves, because the **V** grooves, on account of their wedge shape, will not permit ropes or belts to slip. A simple pulley wheel can be made by placing together the bottoms of two cake or pie tins with flared edges and then riveting them securely, using a little solder around the edge thus formed to make a solid joint. Pulleys made in this way will serve the same purpose as pulleys turned out of wood.

FLASHERS

THERMOSTATS

37. In order to attract attention to displays in show windows, it is often desirable to cause the display lamps to light and darken alternately. Automatic devices may be arranged to switch off all the lamps of a sign together or part of them at a time. This is frequently done by means of a **thermostat**, an instrument in which an electric current heats a metal and

causes it to expand until a circuit-opening device is made to operate so as to close or open a circuit, after which the heating current is cut off or so reduced that the metal cools and contracts and the device is operated in the reverse direction; this throws the heating coil into circuit again, and the series of operations are repeated indefinitely.

38. The Thermoblink.—In Fig. 24 (a) is shown a form of thermostat having the trade name **thermoblink**, and in (b) is shown the connections with a circuit of lamps. This device consists of metal strips arranged in the form of a triangle, around

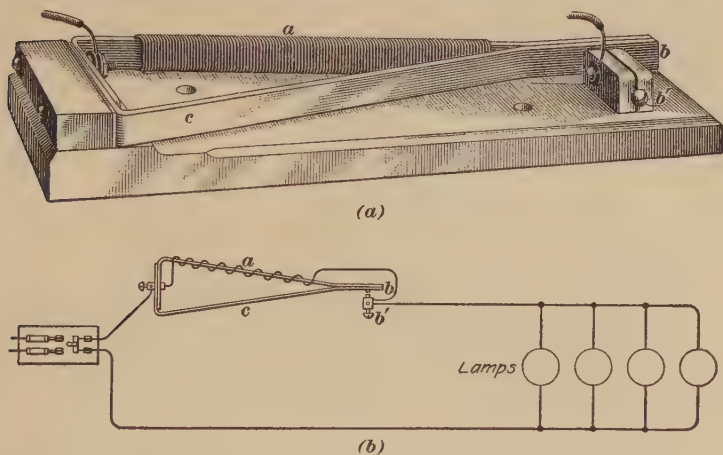


FIG. 24

one leg of which is wound a coil *a* of fine wire that forms a part of a circuit through the lamps. When the current is first switched on, the end *b* of the triangle does not quite make contact with the end of a screw *b'* with which one end of the lamp circuit connects; but a small current, not enough to light the lamps, takes the path through the coil *a* and the connecting wire to screw *b'* and heats the coil. The heat causes the metal around which the coil is wound to expand until the end of the triangle swings over and touches the contact screw *b'*; sufficient current to light the lamps then takes the path through the side *c* and the contact screw. The coil *a*, being shunted by the side *c*, soon cools and the triangle springs back to its normal position.

thus breaking the contact between b and b' and putting out the lights. This process is repeated indefinitely or until the whole circuit is switched off.

In another form of the same device, a central tongue is made to swing alternately, first in one direction and then in

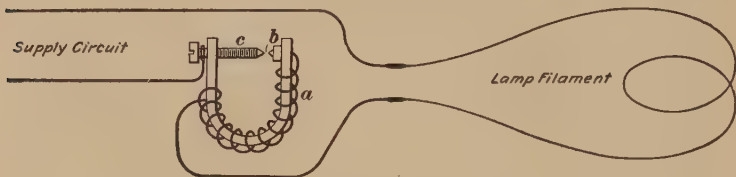


FIG. 25

the other, by the influence of a heating coil, one of two circuits being closed immediately after the other is opened. A retarding device holds the contact closed in either position until the pull becomes strong enough to open it with a snap.

39. Lamps With Thermostats.—Incandescent lamps may be obtained that have U-shaped bimetallic thermostats in

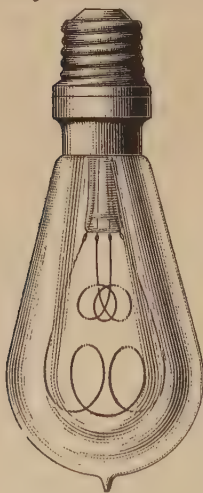


FIG. 26

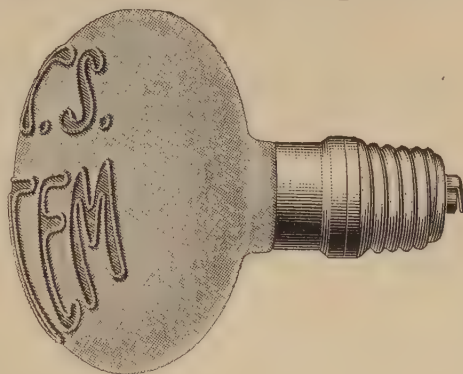
the bases, made as shown in Fig. 25. The two metals of which the U-shaped piece is formed have different rates of expansion under the influence of heat. The U is wound with a coil of wire a connected in series with the lamp filament. When the lamp is connected to the circuit, it lights for an interval, until the coil heats and causes the U to spread and open the circuit, as shown at b . This stops the current through the filament and puts out the lamp; the heating coil a soon cools and the contact b closes, thus again lighting the lamp. By means of an adjusting screw c , the rapidity of the flashing may be regulated. The contact points at b are tipped with platinum.

40. Double-Filament Lamps.—In Fig. 26 is shown a sign lamp having a large and a small filament. The base contains a thermostat that causes the two filaments to light alter-

nately. While on the circuit, such lamps are never entirely dark, but the intensity of the light changes enough to attract attention.

41. Turnip Sign Lamps.—In Fig. 27 (a) and (b) are shown a side view and an end view of a **turnip sign lamp**, so called because of its shape.

The base contains a thermostat, and on the end opposite the base is a letter, word, or sentence to be displayed. The continual flashing calls attention to the advertisement.



(a)

MECHANICAL FLASHERS

42. Various mechanical devices are in use for flashing lamps automatically. In Fig. 28 (a) is shown a **three-circuit, double-pole, commutating switch, or flasher**, and in (b), a similar switch with the motor and one end casting removed. The rotation

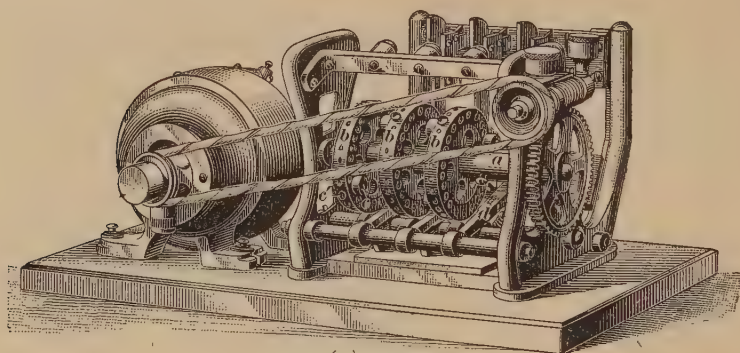


(b)

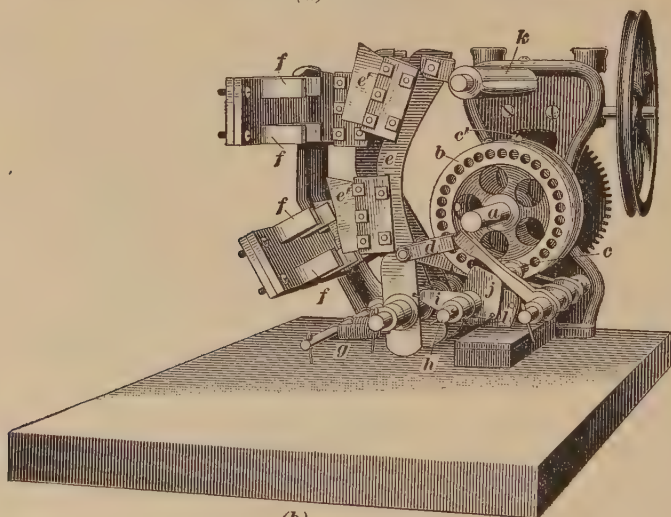
FIG. 27

of the motor is transmitted through the belt and worm-gear to the shaft *a*, on which are as many disks *b* as there are circuits to be controlled. In Fig. 28 (b) only two disks are shown in place, the third being removed in order to show the mechanism. Near the rim of each disk is a series of holes, in any of

which may be placed the pinions of steel rollers *c*. The rollers may be placed on either side of the disk, and the pinions are secured in place by screws through the rim of the disk, as shown at *c'*.



(a)



(b)

FIG. 28

When the roller on one side of the disk presses against the jointed links *d* and forces them down until they are in line with each other, the switch arm *e* is forced over until the blades *e'* enter the spring clips *f*. The spring *g* is then under tension,

tending to open the switch. A smaller shaft *h* below the main shaft *a* carries castings, each of which has two cams *i* and *j*. There are one set of links and one pair of cams for each disk. The links and cams shown in Fig. 28 (*b*) are operated by the third disk, removed from shaft *a*. After the roller on one side of the disk has closed the switch and passed away from the links, a roller on the other side strikes against the cam *i* and causes cam *j* to force the links out of line, when the spring *g* quickly pulls the switch open, a rubber bumper *k* taking up the jar. As soon as the roller has left cam *i*, the spring *l* pulls the cams back, so that the links are free to be forced down into line when the roller next strikes them. The condition shown is that just after the switch has been opened and before the cams have been snapped back into their normal position.

The two blades *e'*, Fig. 28 (*b*), of each switch are insulated from the arm *e* that carries them. When the switch is closed, each blade makes contact with two clips *f*, as shown diagrammatically in Fig. 29. The upper clip of each pair is connected to the supply line, and the lower one to the lamp circuit. Each switch is therefore double pole.

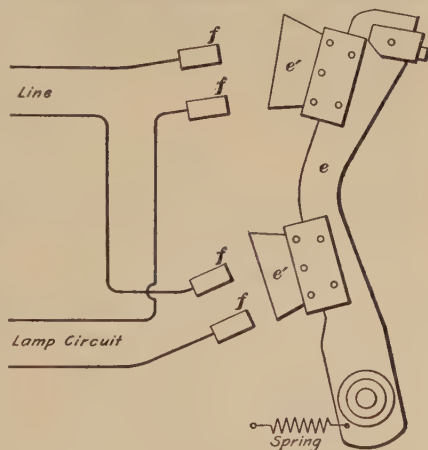


FIG. 29

ELBLIGHT SYSTEM

43. Many systems and devices by means of which the wording of a sign may be changed are in use. One of them, the **Elblight system**, consists of lighting boards, cables, and lamps with two-pin terminals.

44. The *lighting boards* are made by laying conductors *a*, Fig. 30, parallel with each other. One group of conductors is

connected to one line wire of a circuit, and the other group of conductors is connected to the other line wire, as indicated

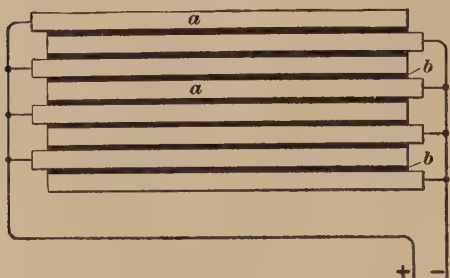


FIG. 30

in the illustration.

The conductors are stranded, and when the board is compressed they flatten out until they are separated by about $\frac{1}{8}$ inch of insulation *b*.

The *Elblight* cables are made in a similar

manner. Many strands of bare, fine copper wire are braided together as a cable and insulated, two insulated cables being fastened side by side when in use, as shown in Fig. 31.

Fig. 32 (*a*) shows a lamp for use with a lighting board, and (*b*) shows a method of fastening the lamps to the cables. The lamp bases are of porcelain and the prongs of phosphor-bronze.

The braiding of the cable strands is such that under ordinary conditions the prongs are firmly held without the clamp. The insulation on the cable is of a high-grade rubber, so that holes formed by the lamp prongs close immediately after the prongs are withdrawn.

All that is required to light lamps with either the board or the cable is to thrust the prongs through the

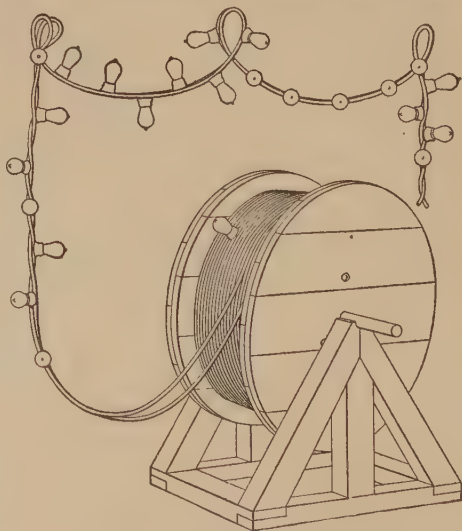


FIG. 31

insulation until they come in contact with the copper. In the board, the insulation between the conductors usually consists of

hard fiber or some other material that the prongs will not easily penetrate, so that short circuits are rare. Lamps may be arranged on the board in the form of any letter, figure, or character desired and may be changed with little expense to any other design. The cable is more useful for electric ornamentation than for electric-sign work, as it may be draped or looped along the walls of a show window or wound around pillars and covered with evergreen, with lamps stuck in at intervals. Owing to the flexibility of the wire, it lends itself readily to drapery or festooning in both interior and exterior displays, and it can be used to good advantage with festoons of bunting.



FIG. 32

CABLES AND FITTINGS

CABLES

45. Steel-armored flexible cords are used extensively for connecting display devices in show windows to the wires of the main circuit. The rules of the National Electrical Code require that flexible cord must be provided with an approved metal armor when used in show windows or show



FIG. 33

cases. In Fig. 33 is shown a section of flexible steel-armored cable. It consists of two rubber-covered wires having a common covering of heavy insulation with interlocked steel strips wound outside, so as to form a continuous protection.

46. Current-Carrying Capacity of Cables.—Care must be taken that the wire used to transmit electricity to a display device is of sufficient size to carry the current without dangerous heating. The rules of the National Electrical Code relating to the size of wire that should be used for currents of stated values should be closely followed. As suggested before, the trimmer should procure a copy of the National Electrical Code, and reference should be made to the rules that relate particularly to the electrical work in hand. A No. 14 Brown & Sharpe gauge, rubber-covered copper wire should not be used for a current greater than 12 amperes; a No. 12 wire, 17 amperes; a No. 10 wire, 24 amperes; etc.



FIG. 34

Fuses of not larger rated capacity, in amperes, than the allowable safe carrying capacity of the wire should be installed in the cut-out to which the wires lead. The fuse is supposed to blow if the safe current is exceeded by 25 per cent., thus opening the circuit.

47. Joints.—It is best, wherever possible, to avoid the making of joints in wires. When they must be made, the rules require that they first be made *mechanically and electrically secure* and then soldered to keep the contact good. This rule applies to all interior wiring.

In making a joint, the insulation is first stripped from the portions to be joined, the wire is then scraped until it is clean

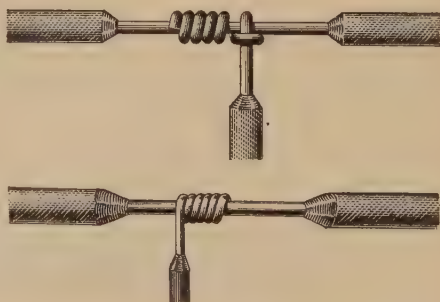


FIG. 35

and bright, and finally the bright portions are twisted together. Figs. 34 and 35 show joints in common use. After twisting the wires together, they are soldered, and the joint is then covered with insulating tape.

The strands of stranded conductors, Fig. 36, must be soldered together before being put under clamps or binding screws; and all conductors, stranded or solid, when their conductivity is

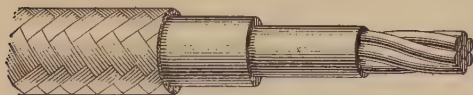


FIG. 36

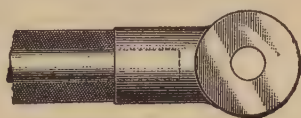


FIG. 37

greater than that of No. 8 Brown & Sharpe wire, must be soldered into lugs, as shown in Fig. 37, for terminals.

SUPPORTING AND INSULATING FITTINGS

48. Cleats.—For supporting insulated wires in position on walls or ceilings, many forms of porcelain supports, or

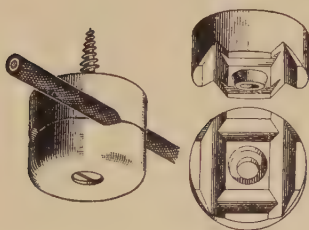


FIG. 38

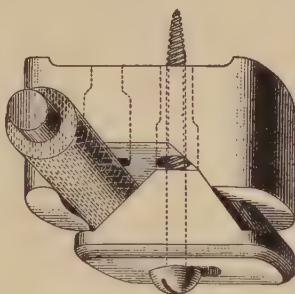


FIG. 39

cleats, are available. In Fig. 38 is shown a *knob cleat*; in Fig. 39 another form of single-wire cleat, suitable for larger wires; and in Fig. 40 a *two-wire cleat*.

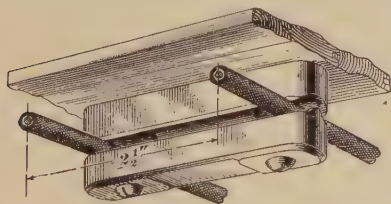


FIG. 40

49. Insulating Tubes and Conduits.—Wires that pass through joists, floors, or partitions or cross each other should be protected by

enclosing them in porcelain tubes, which are called **insulating tubes**. In Fig. 41 is shown a tube for insulating holes in

joists. Longer tubes are available for insulating holes in floors and partitions and for cross-overs.

50. The conduit method of wiring, in which wires are run through **conduits**, is now extensively used for permanent work. In Fig. 42 is shown a piece of *lined iron-armored conduit*. The iron armor *a* is about $\frac{1}{8}$ inch thick, the same as ordinary gas pipe, and not less than $\frac{5}{8}$ inch inside diameter; and the porcelain



FIG. 41



FIG. 42

insulating lining *b*, which must adhere firmly to the armor, is not less than $\frac{1}{32}$ inch thick. *Unlined conduit*, which is now more used than lined conduit, is practically the same as gas pipe, except that the interior is made smooth and less liable to rust by galvanizing or enameling it. The wire used in unlined conduit must have an extra-heavy braiding; *twin wire* is generally used, each wire being separately insulated and the two then bound together with insulating braid. If the wires are to form a part of an alternating-current circuit, both wires of the circuit should be run in the same iron-armored conduit.

There are numerous forms of *outlet boxes* and *outlet plates* that are designed to be connected to the conduits and through which the wires are connected to switches, lamps, motors, etc. These devices, as a rule, pertain to the permanent wiring of the store, and detailed instruction about them is beyond the scope of this Section.

MECHANICAL DISPLAY DEVICES

REMARKS

51. Window trimmers in general admit that a window display containing a moving device as an attraction is bound to create greater interest than an ordinary arrangement of merchandise. Countless mechanical display devices and movable figures for use in window displays can be obtained. Many of them are produced by manufacturers to advertise their products, in which case they are loaned or given to the merchant without cost. Again, many of them can be obtained only from fixture concerns, and unless the trimmer is connected with a firm that is willing to purchase such devices, he is obliged to let his displays remain lifeless—that is, without any movable attraction—or make up mechanical devices and displays of his own.

The ingenious trimmer should not find it difficult to construct mechanical devices that will serve the same purpose as those supplied by manufacturers and dealers. The common wax figure with movable arms can be easily converted into figures in the act of demonstrating the use of some kind of material or article on sale in the store. Displays of certain articles of merchandise can be arranged on shelves that revolve. Fountains in motion, fires burning in fireplaces, balloons ascending and descending, machinery in operation, and many similar ideas can be easily carried out if only a little thought is given.

It is the intention here to show how some of these suggestions can be brought into practice without much trouble; and from the ideas given the beginner should be able to develop many more schemes for motion in displays.

EXAMPLES OF MECHANICAL DISPLAY DEVICES

DISPLAY FORMS IN MOTION

52. As has just been inferred, the ordinary wax and papier-mâché models with jointed wooden arms and wire skirts that are to be found in most of the department stores can be made to assume many lifelike movements and thus be used to advantage in arranging mechanical display features. Many of these forms are mounted on standards fastened to

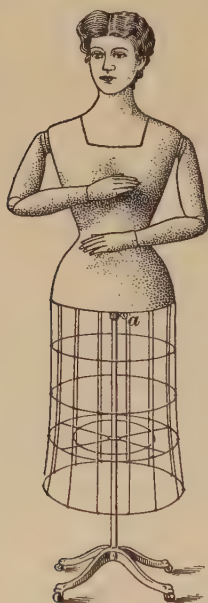


FIG. 43

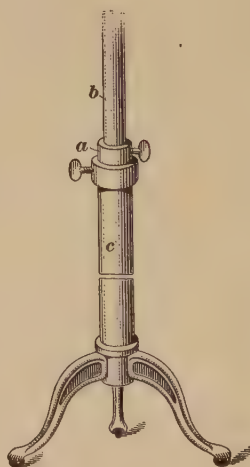


FIG. 44

iron bases in the manner shown in Fig. 43; that is, the body part of the model contains a hollow rod into which the standard is inserted, thus making it possible to raise or lower the model to any desired height. To hold the model rigid, the base of the hollow rod of such models is provided with a thumb-screw, as shown at *a*. In a second form of model, the stand-

ard is secured to the body part of the model and made to fit into a hollow rod fastened to an iron base, as shown in Fig. 44.

To change such rigid, lifeless figures into figures that will appear lifelike in a display, it is simply necessary to arrange them so that they will revolve. With the style of model shown in Fig. 43, this can be done by removing the form from the standard, fastening a collar fitted with a thumbscrew on the standard, and then replacing the form. When arranged in this way, the hollow rod will rest on the collar attached to the standard, and, provided the thumbscrew *a* is not tightened, will allow the body part of the model to turn, as a wheel on an axle. In the case of a model supported in the manner



FIG. 45

shown in Fig. 44, it will be necessary to remove the standard *b* from the hollow rod *c*; place a collar with a thumbscrew, as at *a*, on the standard *b*; and then replace it in the hollow rod.

53. Woman in the Act of Ironing.—In Fig. 45 is shown an excellent central attraction in which use is made of a model arranged to turn on its standard. It consists of a woman in the act of ironing. This display feature, as it may be called, will be found suitable for a towel display, as shown; also, if accompanied by an appropriate show-card, it can be used for any display in which merchandise that can be laundered, such as wash ties, wash goods sold by the yard, etc., is featured.

The manner in which the display form is connected to the motor used to move it is illustrated in Fig. 46. As shown at *a*, a small wooden strip placed so as to come within an inch of the floor, or so that it will just clear the iron base, is tied to the wire skirt. At the left of this strip is placed a spring *b* such as is used to suspend a bird cage, one end being fastened to the strip and the other to the floor. In this connection, it may be mentioned that a good quality of rubber webbing can be made to serve the same purpose as a spring. At the other side of the stick is secured a thin, black wire *c*, which is fastened to another stick, or arm, *e* connected to a pulley



FIG. 46

wheel *d* that is geared to a motor, as shown. This wheel is about 12 inches in diameter, and the arm, which is about 36 inches long, is fastened off the center. Thus, when the wheel is set in motion by the motor, it imparts a backward-and-forward motion to the arm, or stick, *e*, which, in turn, pulls the wire *c* and gives a twisting motion to the model. The spring *b*, as will be seen, serves to pull the model back to its regular position each time it is turned by the motor. The right arm of the model, in the hand of which is held an imitation sad iron, is arranged in a natural pose and then tightened securely by means of the adjusting screws. It will thus be seen that each time the body is turned the arm will move the iron over the object on the ironing board. The left arm of

the model is simply allowed to drop on the ironing board in a graceful, easy manner. As a rule, the iron base of the form is sufficiently heavy to prevent the form from toppling over, but in some cases it may be necessary to fasten it to the floor.

54. Special attention should be given to the imitation sad iron used in this display feature. As shown in Fig. 47, it is made of pieces of cardboard fastened together by pasting thin paper or cloth over the edges. Two strips about $1\frac{1}{2}$ inches wide are used for the sides *a*, and a piece about 7 inches long and 3 inches wide and pointed at both ends, as shown at *b*, is used for the top. The cardboard, after the paste is dry, is painted black or silvered so as to look like a sad iron. A piece of rubber tubing, owing to its light weight, is used for the handle, and inside of the hollow space formed by the cardboard are set two wooden spools, as shown dotted in the illustration. These spools allow the slightest movement of the display form to roll the imitation iron backwards and forwards over the object on the ironing board.

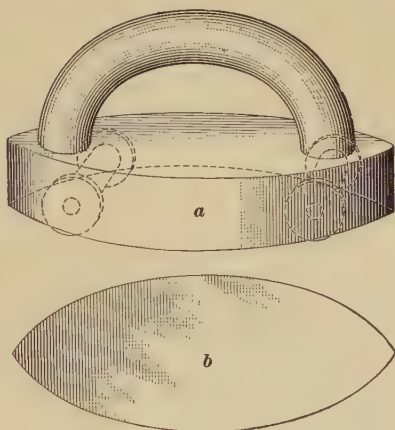


FIG. 47

55. In connection with the mechanical display device just described, as well as some of the devices shown later, it may be well to mention that there are two methods of connecting a motor so as to drive an exhibit at low speed. These are illustrated in Fig. 48. In the method shown in view (a), use is made of what is called a *worm-gear*. Such gears, to run at any desired speed, can be purchased from dealers in machinery. The motor, as shown, is connected by means of a belt to a pulley wheel on the end of a shaft fitted with a worm, which runs a worm-wheel on the shaft beneath it. At the end of this lower shaft is another wheel, off the center of

which is connected an arm, the use of which has already been explained. Motors connected to display devices in this manner are desirable, because very little of the display space is taken up by the driving apparatus.

The method shown in view (b) is practically the same as that used in the display device shown in Fig. 46. From a $\frac{3}{4}$ -inch pulley wheel on the motor, a belt *c* is run around a 12-inch wheel; and running from a 2-inch wheel on the end of the shaft con-

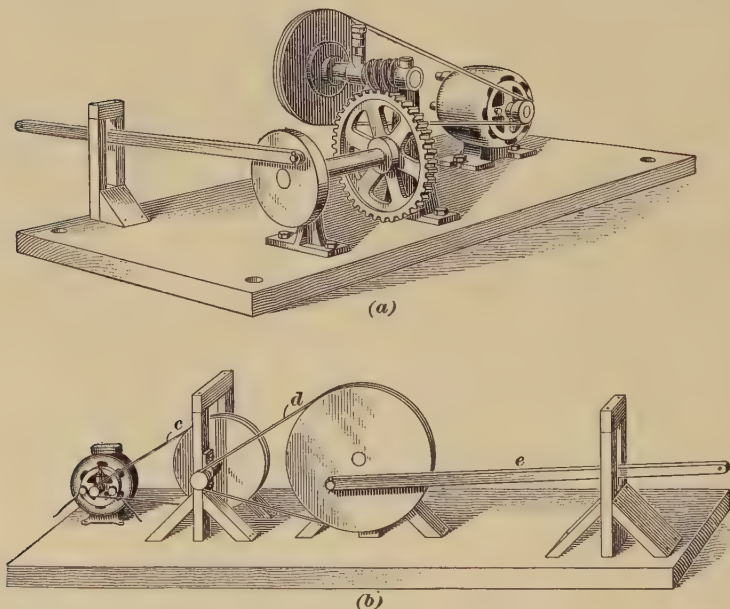


FIG. 48

taining the 12-inch wheel is another belt *d*, which passes around an 18-inch wheel, from which the driving rod *e* receives its motion. One end of this rod is fastened about 4 inches from the center of this large wheel, thus giving a movement of 8 inches to the rod. To give a longer pull, or movement, to the shaft, or rod, it must be placed nearer the outer edge of the wheel. It is well to remember that the farther the rod is placed away from the center of the wheel, the longer will be the stroke and the faster the movement of the display device with which it

connects. The proper speed with which to run display devices can always be determined by experimenting with the stroke of this rod.

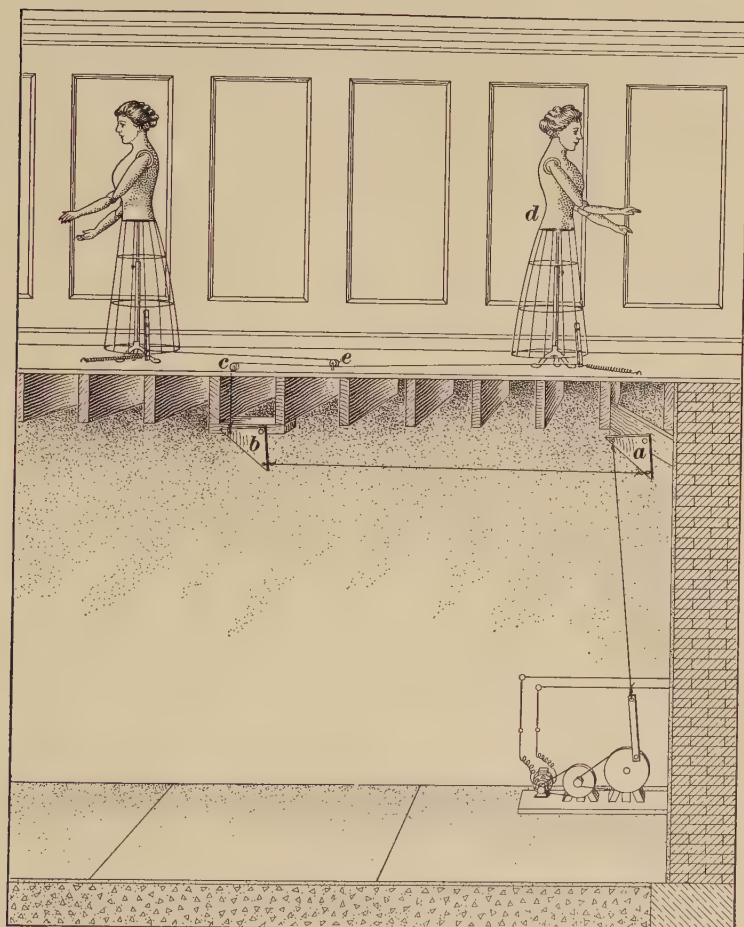


FIG. 49

56. In stores that have large show windows, the motor and machinery required to operate display devices are placed in a corner or near the back of the window and then hid by a screen or some large piece of furniture. In many of the better

class of stores, however, the motor and machinery are permanently placed in the basement, and, if possible, directly underneath the show window. In such cases, the pull wire attached to the driving rod can be run direct to the show window above. If it is not possible to place the machinery in a direct line, the pull wire may be run to a three-cornered block, as shown at *a*, Fig. 49, then to a similar block *b*, up through the floor and over a pulley *c*, and finally to the movable display form *d*. If more than one device is to be operated by the motor, the pull wires can be fastened together in the manner shown at *e*.



FIG. 50

57. Woman in the Act of Painting.—In Fig. 50 is shown another mechanical display device in which use is made of a model arranged to twist, or turn, on its standard. This display device can be used to advantage in a paint or a furniture display. As shown in view (a), it consists of a neatly dressed woman in the act of painting a bookcase. The right hand is holding a brush and the left hand a pail of paint. This device is operated in practically the same manner as the one shown in Fig. 46. In view (b) is shown how the stick *a* should be

fastened to the wire skirt of the model, as well as the position in which the arms and hands should be secured.

58. Woman in the Act of Rocking.—For a display of books or furniture, a neatly dressed form seated comfortably in a rocking chair in motion, as shown in Fig. 51 (a), never fails to be attractive. In arranging a display feature of this kind, it is necessary to remove the wire skirt and the standard and base from the body part of a model like that shown in Fig. 43. After being properly dressed, the body part of the model is placed in the chair, and the skirt of the dress is brought

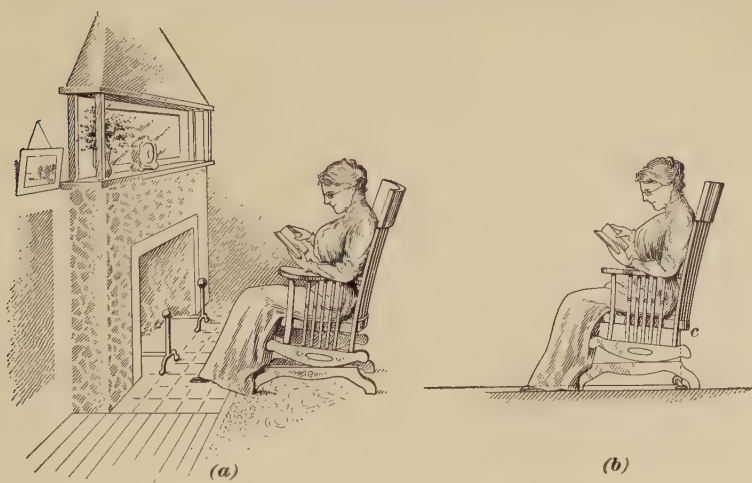


FIG. 51

down to the floor. To give a lifelike appearance to the figure, the skirt will have to be padded and a pair of shoes will have to be placed under the skirt so that only a part of them show. The arms are simply extended outwards and upwards from the elbows, and a book is placed in the hands. A motor geared in the same manner as the one shown in Fig. 46 is used to rock the chair. A cord fastened to the chair, as shown at *c*, Fig. 51 (b), runs under a pulley fastened to the floor and connects with the pull wire connected to the driving mechanism. As the chair used is a patent rocker, no spring is needed for the return motion.

Many other rocking devices can be used to advantage. Thus, for a toy display, a child on a rocking horse will prove suitable; for a display of infants' wear, a mother in the act of rocking a baby to sleep in a cradle, or in her arms while she sits in a rocking chair, will be found appropriate; and so on.

59. Woman in the Act of Washing Clothes.—In Fig. 52 (*a*) is shown a model dressed in a house dress in the act of washing clothes. A display feature of this kind will be found suitable for displays of house dresses, wash goods, house furnishings, etc. For this device is used a form equipped with

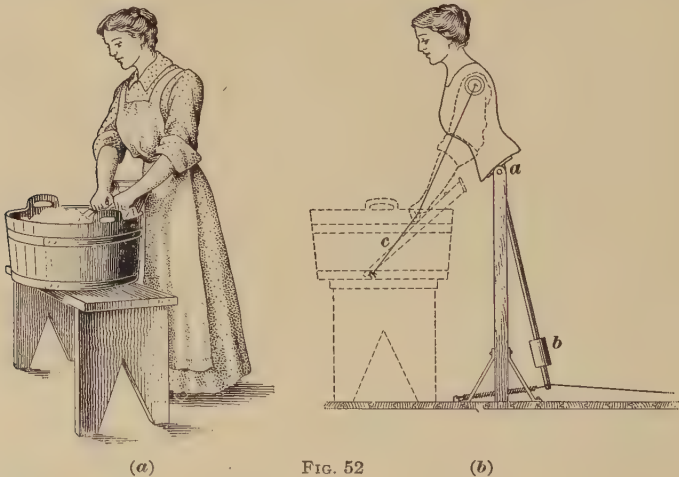


FIG. 52

a standard that fits into a telescoping rod fastened to an iron base, as shown in Fig. 44. The base and telescoping rod, as well as the wire skirt and the arms are removed, leaving only the head, body, and standard. The manner in which this body is rigged up so as to show a woman in the act of washing is illustrated in Fig. 52 (*b*). Two wooden uprights are hinged to the body, as shown at *a*, and fastened to the floor by means of braces. On the standard, which is attached to the body of the model, is fastened a weight *b* that serves to balance the figure. This rod should extend to within 2 inches of the floor; if it does not, a piece of wood should be fastened to it. A

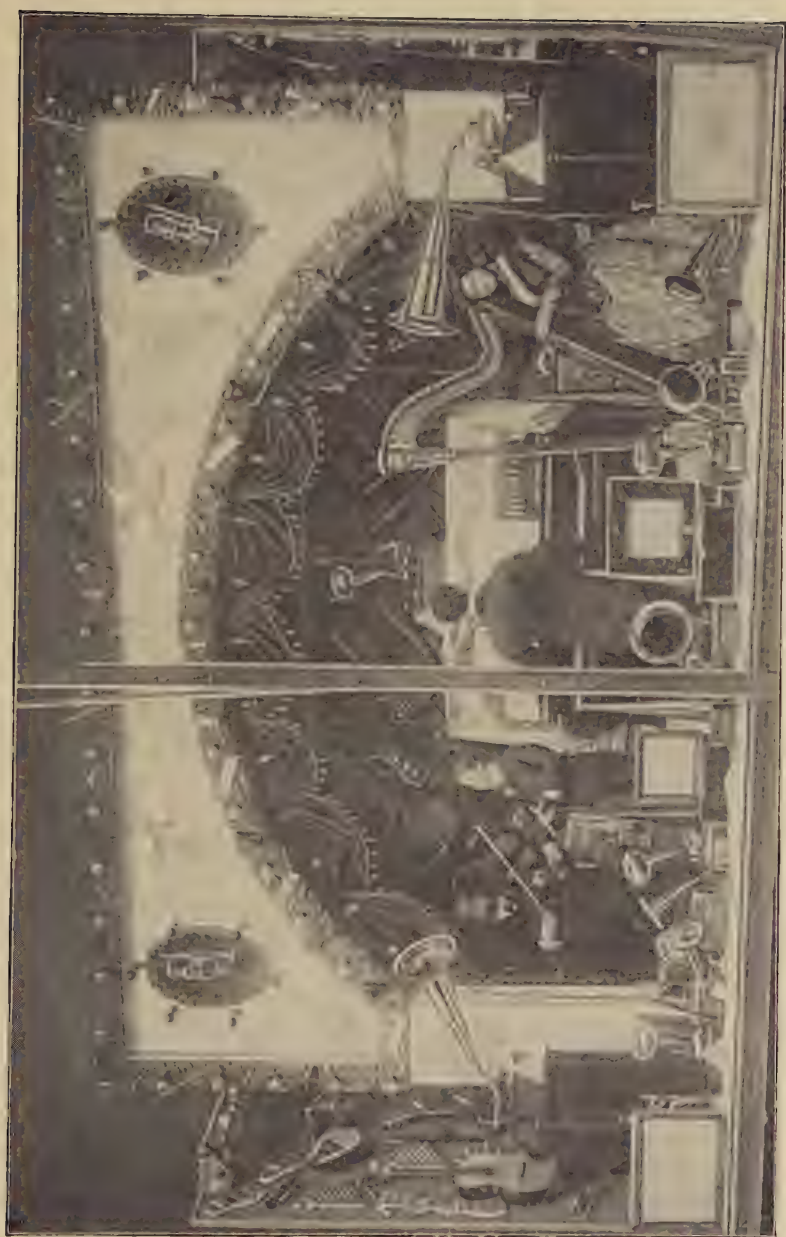


FIG. 53

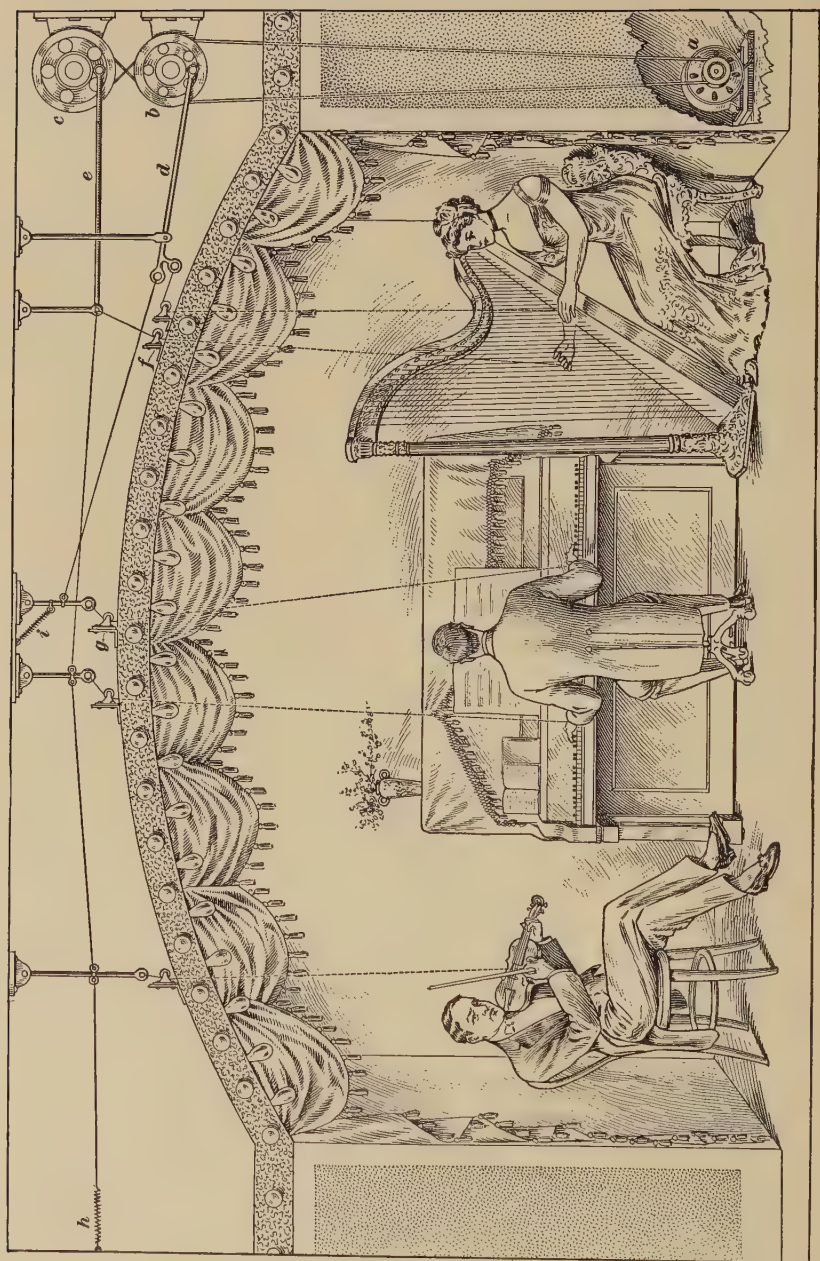


FIG. 54

spring and a wire leading to a motor, which is geared in the manner previously shown, are then fastened to the standard. It will thus be seen that the form, on account of being hinged, will receive a forward-and-backward motion, the weighted standard moving in the same manner as a pendulum. When in this position, the form is dressed and a tub with a washboard is placed on a bench in front of it. The sleeves of the dress, from the shoulder to the elbow, are stuffed with tissue paper or cotton, and the forearms and hands are attached to the sleeves, so as to give the appearance of a woman with her sleeves rolled up. To hold the sleeves straight and at the same time allow the arms to move up and down on the washboard, a piece of elastic is fastened to the end of each sleeve and to the bottom of the tub. Cotton batting should be placed in the tub to represent soapsuds.

60. Figures in the Act of Playing Musical Instruments.—In Fig. 53 is shown an excellent display of musical instruments in which three figures, or models, dressed in evening clothes are in the act of playing a violin, a piano, and a harp. A large framework arch is built in front of the permanent background, so as to conceal the mechanism of the display and at the same time make the display attractive. The framework of the arch is covered with velveteen and outlined with electric-light bulbs. The background and draperies hanging in the arch are dark-red velour, which makes an excellent backing for the musical instruments and at the same time helps to hide the wires connected to the figures to produce motion.

The manner in which motion is imparted to the violinist, the pianist, and the harpist is illustrated in Fig. 54. A motor is placed behind the arch at the right side of the show window, as shown at *a*. Fastened to the side wall above this motor are two shafts containing a 12-inch grooved pulley wheel *b* and a 14-inch wheel *c*. These pulley wheels are connected with the motor by a belt in the manner shown, and on account of their difference in size they give a different speed to the rods, or shafts, *d* and *e* fastened off the wheel centers. These rods, in turn, give a variety of motions to the pull wires, which are

fastened to hinged arms suspended from the ceiling. To these arms are fastened wires that connect with the hands of the figures in the act of playing instruments. These wires run over small pulleys fastened to the framework of the arch, as shown at *f* and *g*, and thus cause the hands to be raised and lowered when the motor is in operation. Two springs *h* and *i* serve to take up the slack in the wires as the shafts *d* and *e* move backwards and forwards. The arms of the display figures should be correctly posed and then fastened rigidly, except at the shoulders.

MISCELLANEOUS MECHANICAL DEVICES

61. Machine for Making Straw Hats.—Fig. 55 illustrates a mechanical display in which use is made of a machine that appears to be making straw hats. This machine, which can be easily constructed by the trimmer, resembles a thrashing machine. It consists of a well-braced, boxlike



FIG. 55

structure mounted on barrow wheels, which can be borrowed from any hardware dealer. At the side are arranged several belts that run on pulley wheels mounted on shafts that extend through the box, and at one end, running around a chute, is an endless belt to which straw hats are fastened. These belts

and wheels are operated by a motor, to which they may be direct connected, the motor being placed in the store basement or behind the machine. When in operation, this device is



FIG. 56

decidedly attractive, because the straw appears to go in at one end and complete hats appear to come out at the other end.

Two wax figures are used to represent men at work. One seems to be feeding straw into the machine, and the other

seems to be taking hats from the endless belt. A display of this kind can be made realistic by stacking straw along the background and scattering straw and hats on the floor, as is shown in the illustration.

62. Nodding Head of a Horse.—Fig. 56 shows an excellent setting that can be used to advantage in a horse-show

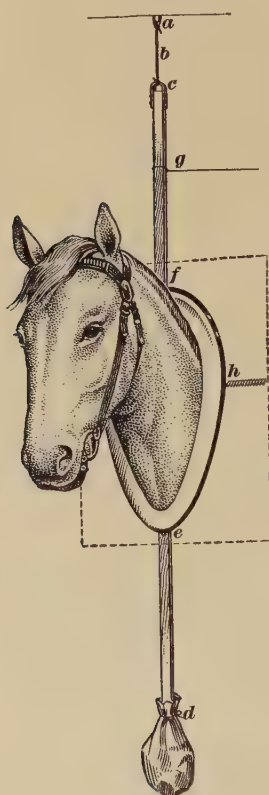


FIG. 57

window display. It consists of a woman neatly dressed in a driving habit in the act of feeding an ear of corn to the winner of the blue ribbon. The head of the horse is seen sticking out of the small window of a shed, in front of which is placed a vine of artificial grapes. The horsehead makes this display feature realistic by nodding up and down in an attempt to get the ear of corn.

The method of arranging the horse-head so as to keep it in motion is shown in Fig. 57. A long strip of wood is first suspended from a screw eye *a* by means of a wire or a strong cord *b* tied to a U-shaped piece of iron *c* nailed to the strip. This wire permits the stick to move freely, but to produce a steady movement, a bag of sand is secured to the lower end of the strip of wood, as shown at *d*. The horsehead, which is made of papier mâché and mounted on a block, is next fastened to the stick, being placed in about the position shown at *e* and *f*. Above the

head, at *g*, a pull wire is fastened to the stick. This wire runs to a motor geared in about the same manner as the one shown in Fig. 46, and by it motion is given to the head. Springs are fastened at each side of the horsehead, as shown at *h*, to keep it from swaying too freely. As the pull wire

moves the strip of wood that supports the head, the springs and the sand bag give the head a slow, graceful swing, very much like the natural movement of a live horse.

63. Mechanical Clock.—In Fig. 58 is shown an artistic display of clocks that has for its central feature a large



FIG. 58

mechanical clock that can be easily built by the trimmer. The body part of this large clock consists of a framework of wood covered with white felt, and the dial is covered with white oilcloth, to represent enamel. Instead of using numbers to represent the hours into which a dial is divided, twelve

round holes are made in the face of this large clock and into each of these holes is inserted a small round clock. Each of these twelve clocks is set according to the time of some important city of the world, and the name of each city is neatly painted opposite the clock that represents it. The hands of the large clock are made of wood and painted white. To add to the attractiveness of the clock, the name of the city or town in which the display is made should be lettered on the small, or hour, hand, and the words "Any Old Time" on the large, or minute, hand. These hands are geared so as to move slowly around the dial, pointing to each small clock in turn. Such

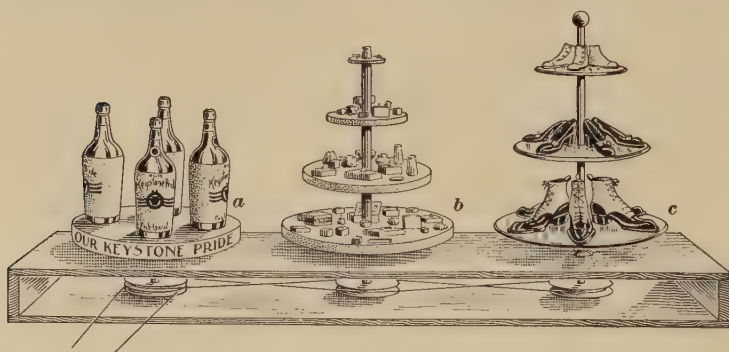


FIG. 59

a display device is bound to attract, because it shows the time of twelve different cities.

As the large hand of the clock must necessarily move faster than the small one, both hands are geared to wheels of different size. The small hand is fastened to a piece of tubing that passes through the dial, in the same manner as in a regular clock, and is then fastened to a 24-inch gear-wheel. The large hand is mounted on a rod that passes through the center of tube to which the small hand is attached and is then fastened to a 10-inch gear-wheel. These gear-wheels are turned by belts running from a small gear-pulley fastened to a motor.

64. Rotary Display Devices.—Although simple in their construction, rotary display devices are found useful by the window trimmer. Fig. 59 shows a series of three revolving

shelves that will serve to give a good idea of how a rotary display device, whether single or in series, can be arranged. In the first place, it is necessary to build a boxlike compartment, as shown. In this compartment are placed pulley wheels fastened securely to the shafts that fit in sockets or holes bored in the bottom of the box and extend through holes in the cover up to the display device. The pulleys are simply connected by means of a belt, which may be crossed, as shown, if it is desired to revolve the display devices in opposite directions. Another belt is run from one wheel to a motor, which, when in operation, causes the wheels, as well as the shafts and devices fastened to them, to revolve. The rate of speed at which a device revolves can be governed by the size of the pulley wheel; the smaller the wheel the greater will be the number of revolutions with the same speed of belt. The speed can also be regulated by means of a worm-gear, an example of which is shown in Fig. 60.

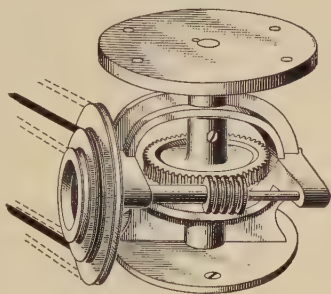


FIG. 60

In arranging a series of revolving shelves, one or more shelves of the same style or two or even three styles can be used to advantage. Referring to Fig. 59, the shelf shown at *a* is simply a flat surface on which may be displayed bottles of liquor, patent medicines, and similar articles. On the narrow edge of a shelf of this kind may be painted an advertising sign, as shown. The shelf shown at *b* is more elaborate. It consists of a series of shelves that differ in size covered with cloth. Such a rotary device will be found excellent for displaying toilet articles, jewelry, etc. The shelf shown at *c* is simply a round, permanent flat top, on which is placed a plate-glass pyramidal fixture suitable for displaying almost any kind of article, although any style of fixture may be placed on it.

65. Fig. 61 illustrates how wax heads and busts can be arranged so as to turn part way around and to revolve. The mechanism is enclosed in the same style of boxlike

compartment as used in Fig. 59, but the shafts are made longer, so as to give height to the display fixtures. The shafts that support the three fixtures *a*, *b*, and *c*, Fig. 61, are rigged up so as to turn only half way around, but the one that supports the head *d* will revolve, being fitted with a pulley wheel and operated in the same way as the shafts shown in Fig. 59. To produce the half-turn movement, each of the shafts supporting fixtures *a*, *b*, and *c*, Fig. 61, is attached to a long wooden strip *e* by means of a short piece of wood *f*. To one end of the strip *e* is secured a pull wire that connects with a motor geared in the same manner as the one shown in Fig. 46; and to the other end of the strip is fastened a spring *g*, which serves to keep the pull wire taut when the motor is in operation.

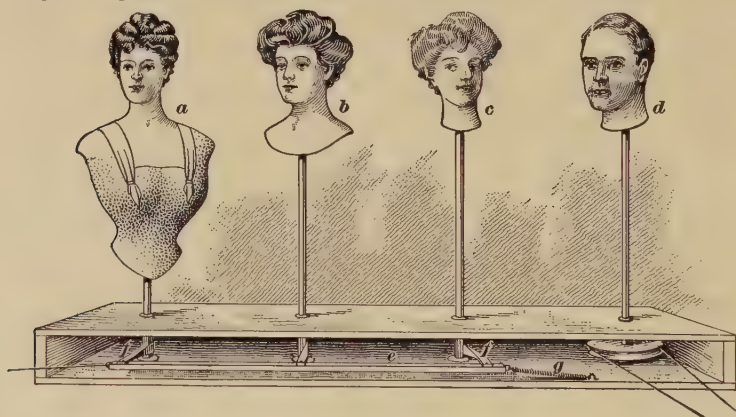


FIG. 61

66. In Fig. 62 (*a*) is shown an artistic central attraction for a millinery device. It consists of a wax head and bust resting in a large urn covered with artificial flowers and foliage. This device can be easily constructed by the trimmer, and the head and bust can be made to turn only part way around or to revolve. As shown dotted in views (*b*) and (*c*), a boxlike pedestal is first built and on top of it is fastened a large, round, wooden chopping bowl. At the sides of the pedestal are fastened two handles, which give the design the appearance of a large urn when covered in the manner just mentioned. Insulated wire, such as is used for electric lights, is used for

the handles. This wire is wrapped with cloth until it is of the proper thickness to be covered with foliage and flowers, when it is bent into shape and fastened in place. The base of the bust is simply placed on a block of wood secured to the top of the operating shaft, which passes through a hole bored in the

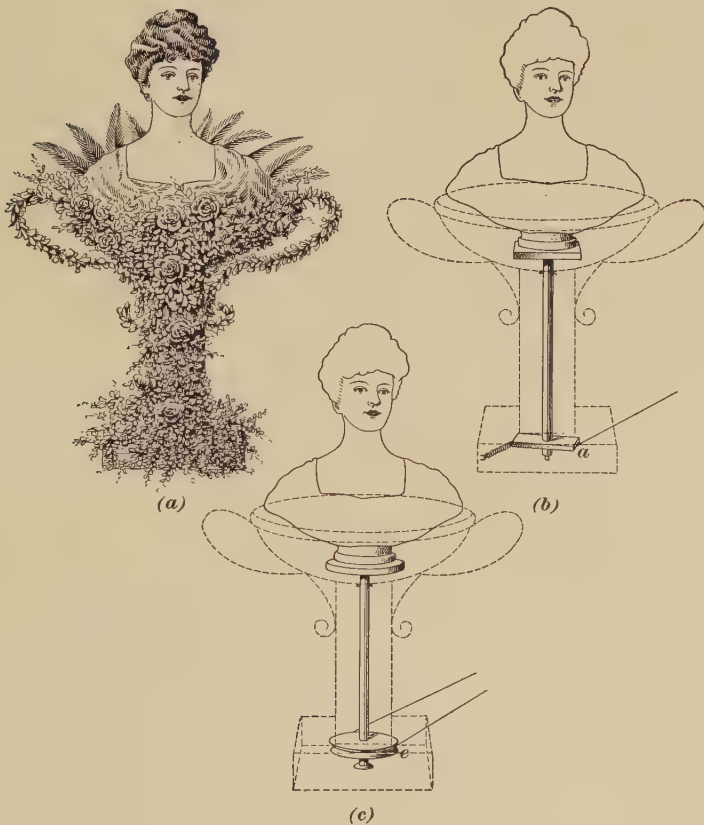


FIG. 62

center of the chopping bowl and rests in a socket formed in the bottom of the pedestal base. To give a half-turn motion to the head and bust, a square block of wood is firmly secured to the shaft, as shown at *a*, view (b), and to it is attached a pull wire and a spring. As in similar devices, the pull wire

connects with a geared motor and the spring serves to keep the wire taut. To revolve the head and bust, a pulley wheel is secured to the shaft, as shown at *e*, view (*c*), a belt connected to a motor being used to operate it, as in other revolving devices. Either the pull wire or the belt for operating such a device can be made to pass through openings at the back of the pedestal base, where they will be out of sight.

67. Revolving Wheels.—Fig. 63 illustrates a good model of a Ferris wheel, which, when decorated with electric lights or fitted with small boxlike cars in which dolls or small

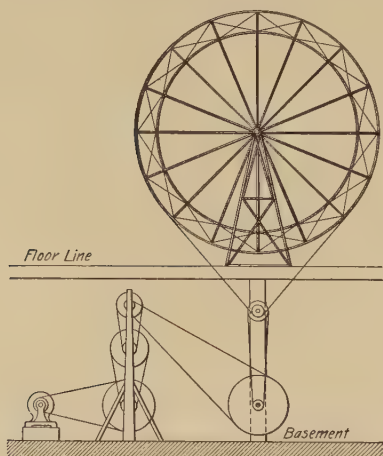


FIG. 63

articles of merchandise can be placed, will be found suitable for displays of fancy Christmas goods and dolls, or, in fact, any display that requires a large mechanical display piece. A wheel of this kind can be easily constructed by the trimmer, but, if necessary, use can be made of a large light-weight wagon wheel. In making up a wheel, thin strips of wood can be used for the spokes. These should be made to radiate from a hub made of two circular

pieces of wood about 12 inches in diameter, and for the rim should be used a thin strip of wood with a groove through its center. A piece of $\frac{1}{2}$ -inch gas pipe can be used as an axle and, to permit the wheel to revolve freely when in place, holes sufficiently large should be bored in the blocks used for the hubs. The manner in which a wheel of this kind can be rigged up is clearly indicated in the illustration. The axle is simply made to rest in a groove in a framework built strong enough to support the wheel, and a large driving belt that passes around the large wheel and a small pulley wheel located in the store basement is used to

operate the device. Wheels of this kind must necessarily be run slowly; therefore, they must be geared to motors by means of several belts and pulleys, as shown.

68. Revolving Christmas Tree.—Fig. 64 (a) illustrates how a Christmas tree trimmed with electric lights can be arranged so that it will revolve and at the same time flash the lights. The mechanism for operating the tree and the wiring for the lights may be placed in the store basement, under the show window, or it may be put under a temporary platform built in the show window. The apparatus for revolving the tree is simple to arrange. A store stool *a* is secured to a board fastened to the floor, and on top of the stool is fastened another board containing a socket, into which a piece of iron pipe is fitted. This pipe extends to the under side of the floor or platform, as the case may be, where it connects with the tree, the butt of which is inserted through a hole in the floor and tapered so as to fit the pipe tightly. A good plan in such cases is to make use of a double collar *b* at the point where the tree passes through the floor. The parts of a collar of this kind fit and move upon each other, and when lubricated well with grease or graphite they will permit the tree to revolve easily. Motion is imparted to the tree by a motor connected with a pulley *c* attached to the iron pipe. Although the illustration shows that only a single belt is used to connect the motor and the device, it must not be inferred that this is sufficient. If an electric motor is to be used, it will be necessary to use several additional belts and speed-reducing pulleys. To produce a good effect, the tree should

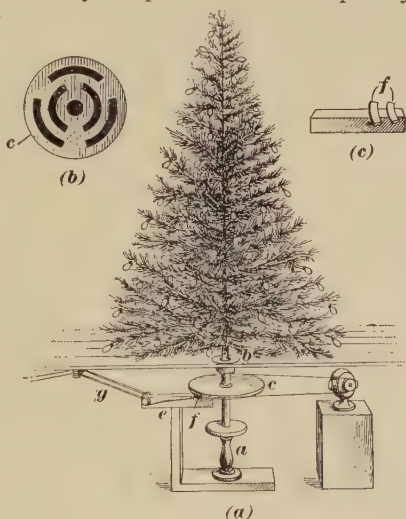


FIG. 64

as to fit the pipe tightly. A good plan in such cases is to make use of a double collar *b* at the point where the tree passes through the floor. The parts of a collar of this kind fit and move upon each other, and when lubricated well with grease or graphite they will permit the tree to revolve easily. Motion is imparted to the tree by a motor connected with a pulley *c* attached to the iron pipe. Although the illustration shows that only a single belt is used to connect the motor and the device, it must not be inferred that this is sufficient. If an electric motor is to be used, it will be necessary to use several additional belts and speed-reducing pulleys. To produce a good effect, the tree should



FIG. 65

be wired in four circuits, and each circuit should have lamps of different color. These lamp wires are brought down alongside the butt of the tree and made to pass through two holes in the double collar—one at each side and close to the tree butt. They are then connected with copper contact segments fastened to the under side of the pulley wheel *c*, as shown in view (b). On a framework *e*, view (a), fastened to the board that supports the apparatus for revolving the tree, are fitted two strips of copper *f*, as indicated in view (c). These copper strips are connected to a branch circuit *g* and are placed in

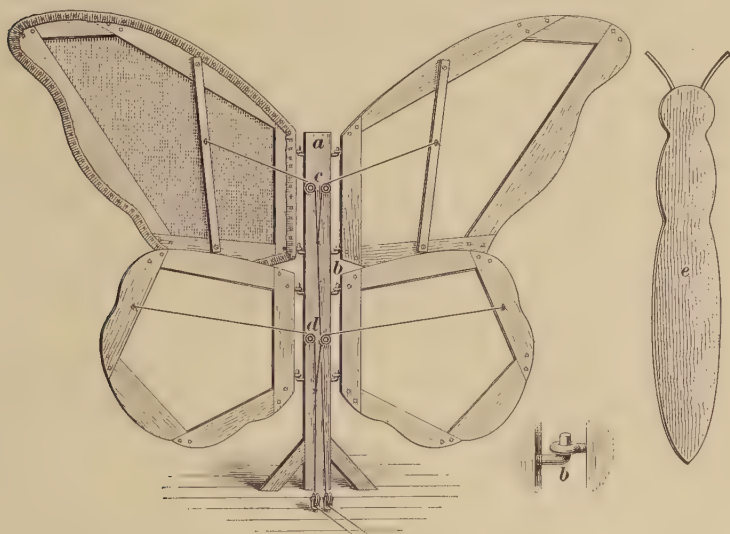


FIG. 66

such a position that when the tree revolves the copper segments on the pulley pass over them, or *make contact*, as it is called, and cause the lights on the tree to light up and go out successively.

69. Mechanical Butterfly.—In Fig. 65 is shown a millinery display that has for its central feature a large butterfly that moves its wings in a lifelike manner. This large mechanical butterfly consists of a framework of wood and cloth that is covered with ostrich feathers. Fig. 66 will serve to give an

idea of the framework required for such a device, as well as the method of putting it together. A large upright *a* is first fastened to the show-window floor, being well braced and tilted toward the background. Next, the four wings of the butterfly are hung on the upright by means of screw eyes and hooks, as shown at *b*. These screw eyes and hooks form hinges that permit the wings to swing back and forth freely. An upward motion is imparted to these wings by two pull wires connected to a motor so geared as to give a to-and-fro motion, and a downward motion is caused by the wings dropping back to their regular position, the post being tilted for this reason. These pull wires are fastened to the wings in the manner illustrated, and they run over pulleys *c* and *d* secured to the upright and then under pulleys fastened to the floor. After the wires are arranged, a board *e* shaped to represent the body of the butterfly and fitted with long feelers made of wire is placed over the pulleys and wires, being secured to blocks

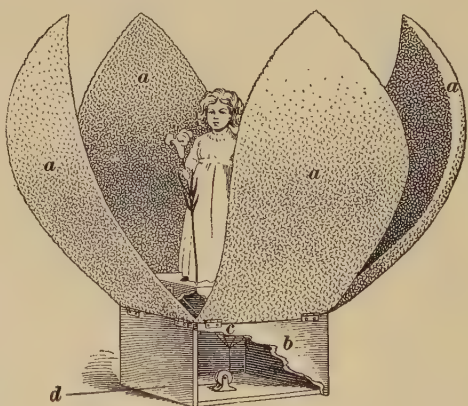


FIG. 67

nailed to the upright *a*, so as not to interfere with the operation of the device. At this stage of construction, the butterfly framework is ready to be covered with feathers. It may be well to remark here that the best effect will be obtained with this kind of device if the large wings are made to move with a long, slow sweep and the small ones with a short, quick jerk. These motions can be produced by regulating both the size of the wooden gear-wheels connected to the motor and the distance from the center of such wheels that the shafts are fastened.

70. Opening and Closing Bud.—Fig. 67 shows a good central attraction for a spring-opening display of millinery,

children's wear, etc. It consists of a massive bud that opens and closes, exposing, when it opens, a doll dressed in white and holding an Easter lily, although a palm, a fern, or a bouquet of flowers could be used instead of the doll if desired. The bud, as shown, is composed of four parts, or quarters, *a*. These are formed out of easily bent wire and fastened to strips of wood, so that they can be hinged to a box *b*, which serves as a base for the bud. These wires are covered with sheeting, which may be glued or sewed in place, and on each side of this sheeting is neatly puffed a soft grade of silkoline, the outside being white and the inside a delicate shade of shell pink. If such buds are made small enough, cardboard or heavy wrapping paper can be used as a foundation for the shirred puffing. In any event, the material used for the bud should be light in weight. In order to operate this display device, a wire is attached to each part of the bud and run over a pulley, as shown at *c*. These four wires are brought to a common point inside the box and then fastened to a wire *d* that runs under a pulley attached to the bottom of the box and connects with a motor so geared as to give a reciprocating, or to-and-fro, motion. As the wire *d* is drawn back by the mechanism to which it connects, it pulls down on the four wires attached to the quarter buds and thus closes the bud; and as the motion of the wire is reversed, the weight of the quarter buds causes the device to open.

71. Imitation Flames.—It is frequently necessary in arranging displays to make use of a fireplace similar to that shown in Fig. 68 (*a*). In such cases, imitation flames are required to make the display appear realistic. A good way of producing such flames is illustrated in Fig. 68 (*b*). An electric fan is placed flat in a small box lined with asbestos, and the box is then covered with wire screen having a $\frac{1}{2}$ - to 1-inch mesh. Strips of several shades of bright-red and orange chiffon are then attached to the wire screen. When the fan is in motion, it causes these pieces of chiffon to flutter in much the same manner as natural flames, and as the material will fray at the ends, the effect is all the more realistic. Besides

serving as a place to tie the strips of chiffon, the wire screen prevents them from dropping into the box when the fan is not in motion and thus becoming tangled with the fan. A box fitted in this way should be placed in the fireplace and then

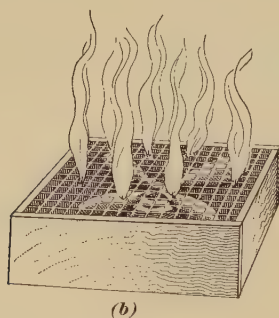
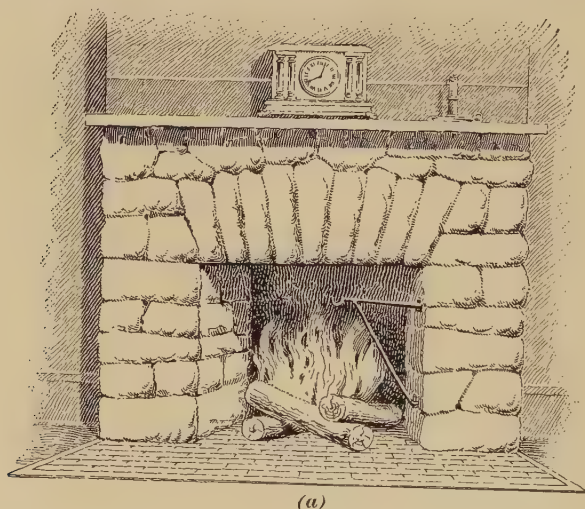


FIG. 68

hidden from view by piling wood around it, as shown in (a). The effect will be more striking if wood that has been partly burned and shows dark charred sides is used. This scheme of producing imitation flames and fire can be carried out further by cutting irregular holes in the box containing the fan and placing electric lights with red bulbs inside of it.

72. Rocking Sailboat.

boat.—Figs. 69 and 70 illustrate two common methods of arranging a display sailboat so that it will rock and in this way attract the attention of passers-by. In each of these methods the display device is pivoted at its center to a board that is securely fastened to the floor. In Fig. 69, the motor for operating the sailboat, is located in the store basement, being connected by a pull rod pivoted to the bottom of the boat

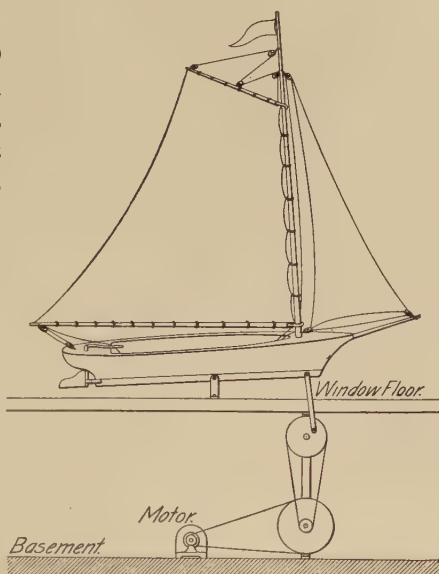


FIG. 69

and to a wheel geared to the motor, as shown. In Fig. 70, the motor is placed at the side of the show window. A pull wire

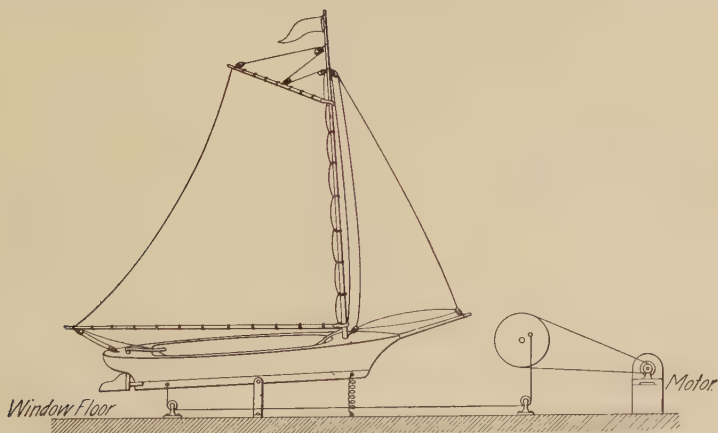


FIG. 70

connected to a pulley wheel geared to the motor passes under two pulleys on the floor and connects with the boat at one

end. At the opposite end a spring is utilized to tilt the boat when the pull wire is on its return stroke. In these illustrations, as is true of many of the illustrations already shown, only sufficient gearing is given to illustrate the working plans. It must not be inferred that enough pulleys are shown to reduce properly the speed from an electric motor. The proper amount of gearing will have to be determined in each application, according to the rate of speed at which the design is to be moved. This involves simply the addition of more pulleys until the desired speed is obtained.

A good plan to follow when rocking sailboats are used in displays is to let the cloth sails hang rather loose and then, by

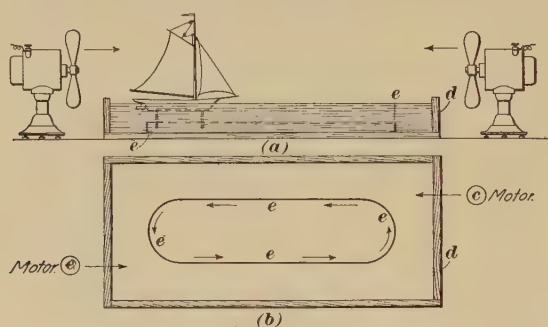


FIG. 71

means of an electric fan hidden from view, create a breeze that will cause the sails to flutter in a manner similar to those of a regular sailboat. Another good plan would be to make the sails out of poultry netting and then fill in the openings of the netting with handkerchiefs. Good effects can be obtained by folding the handkerchiefs so that they come to a point at the center, inserting them through the wire mesh, and then spreading out their ends.

73. Miniature Lake and Sailboat.—A scheme for sailing a toy sailboat on a miniature lake is illustrated in Fig. 71, (a) showing a sectional view and (b) the ground plan. The tank *d* consists simply of a water-tight box, in the bottom of which is placed a guide rail *e* that serves to keep the boat in its course. Connection between the boat and this guide rail

is established by means of two pieces of stiff wire or a pair of knitting needles. These are driven into the keel of the boat at the front and the back, as shown in view (a), being allowed to project sufficiently far to keep the boat inside of the rail. The boat is driven by two electric fans placed at the sides of

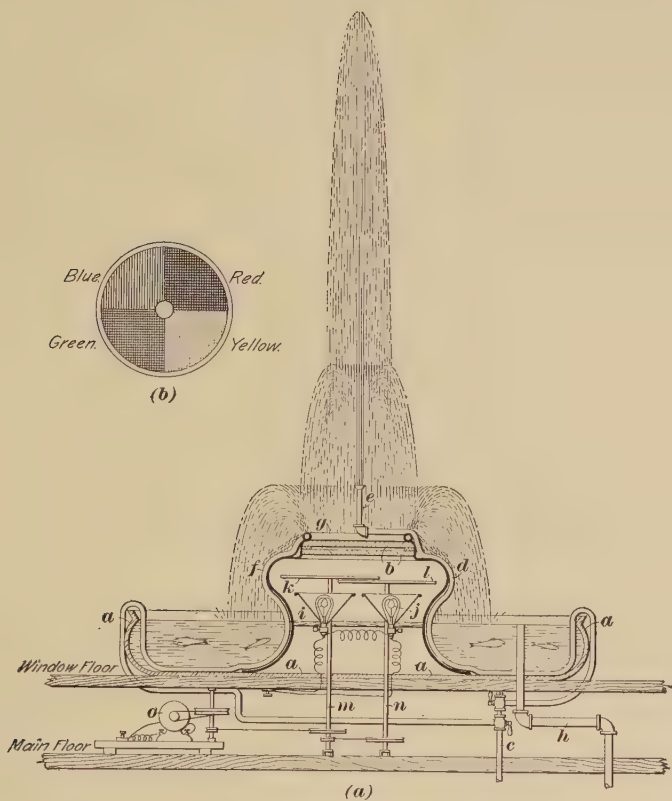


FIG. 72

the tank, being located as shown at *c*, view (b). As will be readily seen, one fan drives the boat in one direction along the submerged rails and the needles guide it around the end until it catches the air from the other fan, which sends it in the other direction. Thus it is kept sailing continuously.

74. Electric Fountain.—In Fig. 72 (*a*) is shown an electric fountain that can be used with good results in store or window decoration. The first essential in the construction of a fountain of this kind is a heavy tin basin with an open-domed central portion, as shown in sectional outline at *a*. Any tinner should be able to make a basin of this kind. The large opening in the dome is covered with two circular pieces of glass *b*. These are arranged so that there is an air space between them; they are also well puttied in place so as to make the dome water-tight. Connected to a water main *c* are two branch pipes that are made to pass over the edge of the basin and up to the top of the dome. One pipe *d* connects with a nozzle *e* that causes the main spray of water, and the other pipe *f* connects with a perforated tubular ring *g*, such as a bath-spray ring, set at such an angle as to produce the second, or lower, spray of water. To carry away the water that falls back into the basin, a waste pipe *h* is provided. Inside the dome, at *i* and *j*, are arranged two 100-candlepower incandescent lamps with regulation mirror reflectors. Above these lamps are placed two circular frames *k* and *l* fitted with colored glass, as shown in view (*b*). These frames are fitted on two shafts *m* and *n*, which are geared by means of belts and pulleys to a motor *o*. The arrangement of the pulleys on the lower end of the shafts causes the color frames at the top to revolve at different rates of speed; and as the frames are made to overlap, this causes a great variety of colored tints to be cast through the rising and falling waters, making a very pretty effect. The purpose of the two pieces of glass *b* in the upper part of the dome can readily be seen. If only one piece of glass were used, the heat from the electric lights underneath and the cold water dropping on top of it would cause it to crack.

75. Illusions.—Window displays in which use is made of illusions can always be counted on to attract a crowd of spectators. Illusions are drawn from the field of the magician, and consist chiefly of screens and mirrors arranged in such a way as to deceive the vision of observers. In order to give a good idea of an illusion, reference is made to Fig. 73, which

shows an illusion known among window trimmers as "The Vanishing Lady." This illusion can be used effectively as the central attraction of a millinery opening display. A woman wearing one of the hats offered for sale apparently comes out of the narrow slender shaft of a pedestal fitted with a bowl-shaped top, and after remaining there a minute or so seems to vanish within the shaft. To increase the attractiveness of this illusion and at the same time display the variety of hats on sale, the woman can wear a new hat each time she appears.

An illusion of this kind is simple to arrange. A platform *a* is first erected in the show window, being placed in the center and a short distance back of the glass front, and then surrounded on three sides with screens *b*. Both the platform and the screens should be covered with dark-green velvet or plush, although black or any other dark goods will do as well. On the platform is placed a pedestal *c* with a bowl-shaped top, one-third of which should be cut away at the back. In the angle thus formed are placed mirrors *d*, which give the effect of an unbroken view to the rear screen *b*. A hole large enough to permit a woman to pass is cut in both the platform and the show-

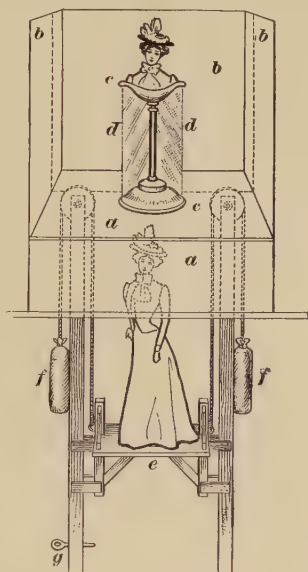


FIG. 73

window floor, and underneath these holes, in the store basement, is erected a small elevator that serves to raise the woman to the proper height and then lower her to the basement. This elevator can be easily constructed. It consists simply of a platform *e* supported by two ropes that pass over pulleys placed at the top of the two uprights, bags of sand *f* being used as counterweights, as shown. In addition, a pin *g* is provided to keep the elevator from flying upwards when the woman employed in the illusion steps off the platform.

The object of the platform in the show window is to raise the point of appearance considerably above the line of vision. Spectators must not be allowed to see into the bowl at the top, because it will enable them to see the cut-out at the back and

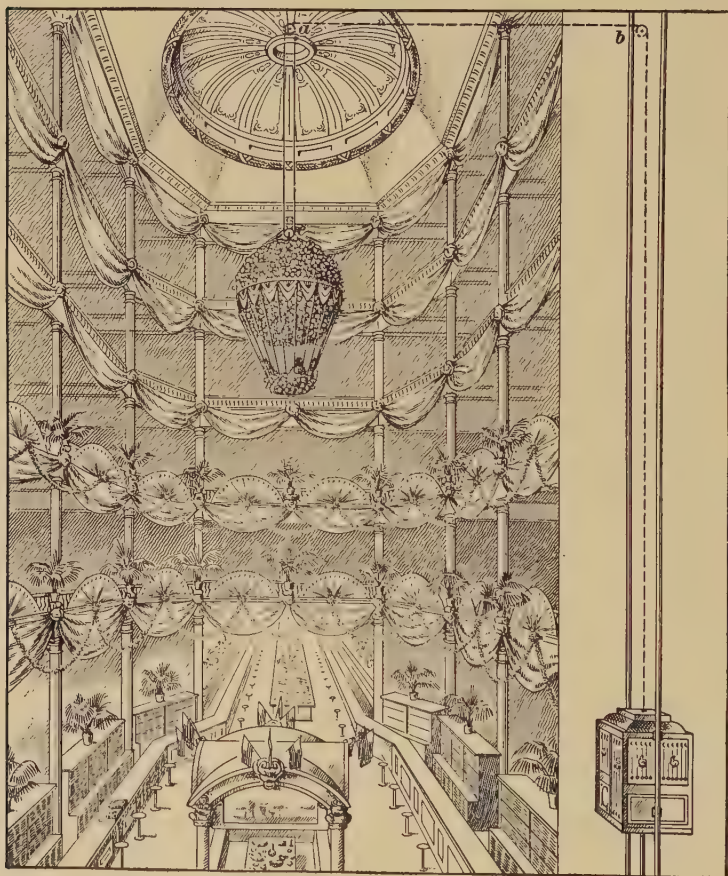


FIG. 74

thus discover the secret of the illusion. The hole through which the woman rises into view must also be arranged so as to be out of sight from the front. If it is difficult to do this, a few palms and potted plants or flowers may be arranged

so as to distract, or cut off, a view of this part of the work. Lugs should be placed at such a point near the top of the elevator posts as will bring the elevator to a stop when the woman arrives in the correct position in the display. It is also advisable to draw a curtain in front of the illusion each time a person enters or leaves the platform.

76. Ascending and Descending Balloon.—In Fig. 74 is shown a decorated store interior in which use is made of an imitation balloon that ascends and descends. The store rotunda, as shown, is artistically decorated and the balloon is trimmed to harmonize with these decorations, being covered neatly with white handkerchiefs, and to make it appear real, three large dolls are placed in the basket. A balloon suitable for an interior decorated in this manner can be easily constructed. A globe is formed out of thin strips of wood and then covered with poultry netting, in which handkerchiefs may be tucked, as suggested in Art. 72. From the globe is then suspended a basket, which may be made of the same materials as is used for the globe, although a large tub or a clothes basket would answer the purpose. The balloon is made to ascend and descend by the store elevator, to which it is connected by a strong wire rope that passes over a pulley *a* fastened to the ceiling of the rotunda and a pulley *b* fastened at the top of the elevator shaft, one end of the wire being secured to the balloon and the other to the top of the elevator. If it so happens that the elevator travels a greater distance than the balloon can possibly travel, it will be necessary to use a longer rope than in the other case and an additional pulley. This pulley should be secured to the top of the balloon, as shown at *c*. Then the rope, after passing over pulley *a*, can be made to pass under pulley *c* and up to a point at the top of the rotunda, a few inches from pulley *a*, where it should be securely fastened. A rope arranged in this way will cause the balloon to rise and fall only half as far and half as fast as the elevator.

In connecting the balloon and the elevator, it is advisable to run the elevator to the top of the shaft so that the rope will reach the balloon on the store floor.

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